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Patent No. 5766880
GENERAL INFORMATION:
APPLICANT: Cole, Susan P.C.
APPLICANT: Deeley, Roger G.
TITLE OF INVENTION: ISOLATED NUCLEIC ACID MOLECULES ENCODING TITLE OF INVENTION: MULTIDRUG RESISTANCE PROTEINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NUMBER OF SEQUENCES: 9
CORRESPONDENCE ADDRESS:
ADDRESSE: PATTEQ RESEARCH & DEVELOPMENT INNOVATIONS STREET: Queen's University at Kingston CITY: Kingston STATE: Ontario
               US-09-685-166A-538
US-09-679-1426-538
US-09-651-226-538
US-09-651-226-33
US-09-208-716-3
US-09-208-716-3
US-09-636-716-3
US-09-637-143-537
US-09-63-143-537
US-09-65-143-537
US-09-61-400-2
US-09-001-273-2
US-09-01-273-2
US-09-647-140B-4
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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM C COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII text
CURRENT APPLICATION DATA:
APPLICATION NAMBER: US/08/463,092B
FILING DATE: 05-UN-1995
CLASSIFICATION: 435
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PRIOR APPLICATION NUMBER: 07/966,923
FILING DATE: 27-0CT-1992
CLASSFIECATION NUMBER: 08/029,340
FILING DATE: 8-MAR-1993
CLASSIFICATION WIMBER: 08/141,893
FILING DATE: 8-MAR-1993
CLASSIFICATION NUMBER: 08/141,893
FILING DATE: 26-0CT-1993
CLASSIFICATION: 435
FILING DATE: 20-0CT-1993
CLASSIFICATION: 435
FILING DATE: 20-MAR-1995
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: SCEEGY, CARCI MISTRICKI
NAME: SCEEGY, CARCI MISTRICKI
REGISTRATION NUMBER: 39,539
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TELECOMMUNICATION INFORMATION:
TELEBRAN: (613) 545-2342
TELEFAX: (613) 545-6853
INFORMATION FOR SEQ ID NO: 4:
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/cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*
                            GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd
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S-08-463-092B-6
S-08-462-109A-6
S-08-461-197B-6
S-08-461-197A-6
S-08-461-384B-6
S-08-461-384B-6
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US-08-460-907B-2
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US-08-461-384B-2
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Maximum Match 100%
Listing first 45 summaries
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Search Holes

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Patent No. 582835;
GENERAL INFORMATION:
APPLICANT: Cole, Susan P.C.
APPLICANT: Decley, Roger G;
TITLE OF INVENTION: METHODS FOR IDENTIFYING
TITLE OF INVENTION: MUTIDRUG RESISTANT TUMOR CELLS
NUMBER OF SEQUENCES: 6
CORRESPONDENCE ADDRESS:
ADDRESSEE: LAHIVE & COCKFIELD
STREET: 60 State Street, suite 510
CITY: Boston
STATE: MASSACHUSELTS
COUNTRY: USA
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CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/462,109A
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/966,923
FILING DATE: 27-0C1-1992
APPLICATION NUMBER: 08/029,340
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           : 1531 amino acids
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SEQUENCE CHARACTERISTICS
        LENGTH: 1531 amino ac
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
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Patent No. 5891724

GENERAL INFORMATION:

GENERAL INFORMATION:

APPLICANT: Cole, Susan P.C.

TITLE OF INVENTION: METHODS FOR CONFERRING MULTIDRUG

TITLE OF INVENTION: RESISTANCE ON A CELL

NUMBER OF SEQUENCES: 9

CORRESPONDENCE ADDRESS:

ADDRESSEE: PARTEQ RESEARCH & DEVELOPMENT INNOVATIONS

STREET: Queen's University at Kingston

CITY: Kingston

CITY: Kingston

STATE: Ontario

COUNTRY: CANADA

ZIP: K7L 3N6
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Best Local Similarity 100.0%; Pred. No. 0;
Matches 1531; Conservative 0; Mismatches
          APPLICATION NUMBER: 08/141,893
APPLICATION NUMBER: 08/407,207
FILING DATE: 26-0CT-1993
APPLICATION NUMBER: 08/407,207
FILING DATE: 20-MAR-1995
ATTORNEY/AGENT INFORMATION:
NAME: DECONTI, Giulio A. Jr.
REGISTATION NUMBER: 31,503
REFERENCS/DOCKET NUMBER: 901-002CP4
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 227-7400
TELEFAX: (617) 227-5941
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                         LENGTH: 1531 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
8-MAR-1993
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100.0%; Pred. No. 0;
ive 0; Mismatches
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII text
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/460,907B
FILING DATE: 05-UN-1995
CLASSIFICATION: 424
PRIOR APPLICATION NATA:
APPLICATION NUMBER: 07/966,923
FILING DATE: 27-0CT-1992
CLASSIFICATION: 424
PRIOR APPLICATION 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/029,340
FILING DATE: 26-0CT-1993
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/141,893
FILING DATE: 26-0CT-1993
FILING DATE: 26-0CT-1993
FILING DATE: 20-MAR-1995
CLASSIFICATION NUMBER: 08/407,207
FILING DATE: 20-MAR-1995
CLASSIFICATION NUMBER: 08/407,207
FILING DATE: 20-MAR-1995
                                                                                                                                                                                                                                                                                                                                                                       ATTORNEY/AGENT INFORMATION:
NAME: Steeg, Carol Miernicki
REGISTRATION NUMBER: 39,539
REFERENCE/DOCKET NUMBER: 01551
TELECOMUNICATION INFORMATION:
TELEPRONE: (613) 545-2342
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 1531 amino acids
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MOLECULE TYPE: protein

US-08-460-907B-4
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                                                                                                                           GENERAL INFORMATION:
APPLICANT: COle, Susan P.C.
APPLICANT: Deeley, Roger G.
TITLE OF INVENTION: METHODS FOR IDENTIFYING CHEMOSENSITIZERS
NUMBER OF SEQUENCES: 6
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 1531;
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1501 DKGEIQEYGAPSDLLQQRGLFYSMAKDAGLV 1531
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Best Local Similarity 100.0%; Pred. No. 0;
Matches 1531; Conservative 0; Mismatches
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/966,923
FILING DATE: 27-0CT-1992
APPLICATION NUMBER: 08/029,340
FILING DATE: 8-MAR-1993
APPLICATION NUMBER: 08/141,893
FILING DATE: 26-0CT-1993
APPLICATION NUMBER: 08/407,207
FILING DATE: 20-MAR-1995
ATTORNEY AGENT INFORMATION:
NAME: DECONTI, GIULIO A. Jr.
REGISTRATION NUMBER: 31,503
REFERENCE/DOCKET NUMBER: 31,503
REFERENCE/DOCKET NUMBER: 91,503
                                                                                                                                                                                                                                                E: LAHIVE & COCKFIELD
60 State Street, suite 510
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CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/463,179A
                                                                                                                                                                                                                                                            STREET: 60 State Street, suite 51 CITY: Boston STATE: Massachusetts COUNTRY: USA ZIP: 02109
COMPUTER READABLE FORM: MEDIUM TYPE: Floppy disk COMPUTER: IBM PC Compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: ASCII text
                                                                                           Sequence 4, Application US/08463179A
Patent No. 6001563
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INFORMATION FOR SEQ ID NO: 4
SEQUENCE CHARACTERISTICS:
LENGTH: 1531 amino acids
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Db 61 DRGYIQMTPLNKTKTALGFLLWIVCWADLFYSFWERSRGIFLAPVFLVSPTLLGITTLLA 120	Qy 121 TFLIQLERRKGVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS 180  Db 121 TFLIQLERRKGVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS 180	Qy 181 LLIIQLVLSCFSDRSPLFSETIHDDNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD 240	QY 241 LWSLNKEDTSEQVVPVLVKNWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVEAL 300	QY 301 IVKSPQKEWNPSLFKVL/XKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPD 360	Qy 361 WQGYFYTULLFVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSSTV 420 Db 361 WQGYFYTULLFVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSSTV 420	QY 421 GEIVNLMSVDAQREMDLATYINMINSAPLQVILALYLLMLNLGPSVLAGVAVMVLMVPVN 480	QY 481 AVWAMKTKTYQVAHMKSKDNRIKLMNBILNGIKVLKLYAWELAFKDKVLAIRQEELKVLK 540	Oy 541 KSAYLSAVGTFTWVCTPFLVALCTFAVYVTIDENNILDAQTAFVSLALFNILRFPLNILP 600 1	CY 601 MVISSIVQASVSLKRLRIFLSHEBLBPDSIBRRPVKDGGGTNSITVRNATFTWARSDPPT 660	QY         661 LNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAWIQND 720           DD         661 LNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAWIQND 720	OY 721 SLRENILPGCQLEBPYKRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGGKQRVSLAR 780 Db 721 SLRENILPGCQLEBPYKRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGGKQRVSLAR 780	QY         781 AVYSNADIYLFDDPLSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIV 840           DD         781 AVYSNADIYLFDDPLSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIV 840	Qy         841 MSGGKISEMGSYQELLARDGAFAEFLRTYASTEQEQDAEENGYTGVSGPGKEAKQMENGM 900           Db         841 MSGGKISEMGSYQELLARDGAFAEFLRTYASTEQEQDAEENGYTGVSGPGKEAKQMENGM 900	QY 901 LVTDSAGKQLQRQLSSSSYSGDISRHHNSTAELQRAEAKKEETWKLMEADKAQTGQVKL 960	Qy 961 SVYMDYMKAIGLEISFLSIFLFMCNHVSALASNYMLSLWTDDPIVNGTQEHTKVRLSVYG 1020	QY 1021 ALGISQGIAVFGYSMAVSIGGILASRCLHVDLLHSILRSPWSFFERTPSGNLVNRFSKEL 1080	Qy 1081 DTVDSMIPEVIKWFMGSLFNVIGACIVILLATPIAAIIIPPLGLIYFFVQRFYVASSRQL 1140	OY 1141 KRLESVSRSPVYSHFNETLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRWLA 1200   1141 KRLESVSRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRWLA 1200   1141 KRLESVSRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRWLA 1200
ODPVLF 1380	RQLVCL 1440         RQLVCL 1440	TRVIVL 1500         TRVIVL 1500	\dagger \dagge	<b>6</b> 0	~ A	<b>₹</b> 0	<i>रे</i> ।	\( \delta \)	ନ୍ତ ବର	<b>사</b>	\cdot \cdot	\$6 qq	. · · · · · · · · · · · · · · · · · · ·	, do	AG ad		XI.SRH 60	TTLLA 120
1321 EKVGIVGRTGAGKSSLTLGLFRINESAEGEIIIDGINIAKIGLHDLRFKITIIP	SGSLRANLDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQ 	ARALLRKTXILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDY 	DKGEIQEYGAPSDLLQQRGLFYSMAKDACLV 1531 	RESULT 5 US-08-461-384B-4	sequence 4. Application us/08401384B Patent No. 6025471 GENERAL INFORMATION: APPLICANT: Cole, Susan P.C.	TLE OF INVENTION: MULTIDRUG RESISTANCE PROTEINS MBER OF SEQUENCES: 10 RRESPONDENCE ADDRESS: ADDRESSE:	STREET: Queen's University at Kingston CITY: Kingston STATE: Ontario	ZEE.	SYST	FILING DATE: 05-UNH-95 PRIOR APPLICATION DATA: APPLICATION DATA: FILING DATE: 77-066,923 FILING DATE: 77-07-1909	APPLICATION NUMBER: 08/029,340 FILING DATE: 8-MAR-1993 APPLICATION NUMBER: 08/141,893 FILING DATE: 2-007-1993	TION NUMBER: 08/407,207 DATE: 20-MAR-1995 GGBNT INFORMATION	REGISTRATION NUMBER: 39,539 REFERENCE/DOCKET NUMBER: Q1547 TELECOMMONICATION INFORMATION: TRIREPHONE: (613) 545,2342	(613) 54 R SEQ II RACTERIS	mino acid (: linear (YPE: protei	Query Match Query Match Best Local Similarity 100.0%; Pred. No. 0. Matches 1531: Conservative 0. Mismatches 0. 174919	DGSDPLWDWNVTWNTSNPDFTRCFONTVLVWN DGSDPLWDWNVTWNTSNPDFTRCFONTVLVWN DGSDPLWDWNVTWNTSNPDFTRCFONTVLVWN	DRGYIQMTPLNKTKTALGFLLWIVCWADLFYSFWERSRGIFLAPVFLVSFTLLGI

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181 LLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD 240 241 LWSLNKEDTSEQVVPULVRNWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVEAL 300 241 LWSLNKEDTSEQVVPULVRNWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVEAL 300 241 LWSLNKEDTSEQVVPULVRNWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVEAL 300 301 IVKSPQKEWNPSLFKVLXKTFGPYFLMSFFFKAIHDLAMFSGPQILKLLIKFVNDTKAPD 360 301 IVKSPQKEWNPSLFKVLXKTFGPYFLMSFFFKAIHDLAMFSGPQILKLLIKFVNDTKAPD 360 361 WQGYFYTULFVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSSTV 420 421 GEIVNLMSVDAQRFMDLATYINMIWSAPLQVILALYLLMLNLGPSVLAGVAVMVLMVPVN 480 421 GEIVNLMSVDAQRFMDLATYINMIWSAPLQVILALYLLMLNLGPSVLAGVAVMVLMVPVN 480 481 AVMAMKTKTYQVAHMKSKDNRIKLANBILNGIKVLKLYAWELAFKDKVLAIRQEELKVLK 540 481 AVMAMKTKTYQVAHMKSKDNRIKLAMBILNGIKVLKLYAWELAFKDKVLAIRQEELKVLK 540 541 KSAXLSAVGTFTWVCTPPLVALCTFAVYVTIDENNILDAQTAFVSLALFNILRFPLNILP 600 541 KSAXLSAVGTFTWVCTPPLVALCTFAVYVTIDENNILDAQTAFVSLALFNILRFPLNILP 600	601 WUSSIVOAGVSIKRIRIFISHEREPDSIERRPVKOGGTWSITYRNATFTWARSDPPT 660 61 MUSSIVOAGVSIKRIRIFISHEREPDSIERRPVKOGGGTWSITYRNATFTWARSDPPT 660 61 MUSSIVOAGVSIKRIRIFISHEREPDSIERRPVKOGGGTWSITYRNATFTWARSDPPT 660 61 LAGITTESIPEGALVAVGOVGCGKSSLISALLAEMDKVEGHVAIKGSVAVPOQANIOND 720 721 SIRENILFGCOLEEPTYRSVIQACALLPDLEILPSGDRTRIGSKGWILSGGGKQRYSLAR 780 721 SIRENILFGCOLEEPTYRSVIQACALLPDLEILPSGDRTRIGSKGWILSGGGKQRYSLAR 780 722 SIRENILFGCOLEEPTYRSVIQACALLPDLEILPSGDRTRIGSKGWILSGGGKQRYSLAR 780 723 AVYSNADIYLPGCOLEEPTYRSVIQACALLPDLEILPSGDRTRIGSKGWILSGGGKQRYSLAR 780 724 AVYSNADIYLPGCOLEEPTYRSVIQACALLPDLEILPSGDRTRIGSKGWILSGGGKQRYRYLAR 780 725 LINTINIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII
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QY         121 TFLIGLERRKGVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS 180           Db         121 TFLIGLERRKGVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS 180           QY         181 LLLIQLVLSCFSDRSDLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD 240           Db         181 LLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD 240           Db         241 LWSLNKEDTSEQVVPVLVKGNKGCARTRKQPVKVVYSSKDPAQPKESSRVDANBEDVEAL 300           241 LWSLNKEDTSEQVVPVLVKGNKKECARTRKQPVKVVYSSKDPAQPKESSRVDANBEDVEAL 300           241 LWSLNKEDTSEQVVPVLVKGNKKECARTRKQPVKVVYSSKDPAQPKESSRVDANBEDVEAL 300	301 IVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPD			601 MVISSIVQASVSLKRLRIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTWARSDPPT	661 LNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAWIQND 720	781 AVYSNADIYLFDDPLSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIV		2y 961 SVYWDYMKAIGLFISFLSIFLFMCNHVSALASNYWLSLWTDDPIVNGTOEHTKVRLSVYG 1020	1021 ALGISOGIAVFGYSMAVSIGGILASRCLHVDLLHSILRSPMSFFERTPSGNLVNRFSKEL 108	1081 DIVDSMIPEVIKMEMGSLENVIGACIVILLATELAALIIEPPGGLIYEFVOKFYVASSKQL 1081 DIVDSMIPEVIKMEMGSLENVIGACIVILLATELAALIIEPPGGLIYEFVORFYVASSKQL	1141 KRLESVSRSPYSPHETLIGVSYTRAFEBERFFIJQSDLKVDENQKAYYPSIJANRWLA 1200
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Qy         1321         EKVGIVGRTGAGKSSLTLGLFRINESAEGEIIIDGINIAKIGLHDLRFKITIIPQDPVLF         1380           Db         1321         EKVGIVGRTGAGKSSLTLGLFRINESAEGEIIIDGINIAKIGLHDLRFKITIIPQDPVLF         1380           Qy         1381         SGSLRMNLDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGGRQLVCL         1440           Db         1381         SGSLRMNLDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGGRQLVCL         1440           Qy         1441         ARALLRKTRLIALDBEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIV         1500           Db         1441         ARALLKKTKTKLIALDBATAAAVDLETDDLIGSTIRTQFEDCTVLTIAHRLNTIMDYTRVIV         1500           Db         1441         ARALLKKTKTKLIALDBATAAAVDLETDDLIGSTIRTQFEDCTVLTIAHRLNTIMDYTRVIV         1500		RESULT 7 US-08-141-893-2 ; Sequence 2, Application US/08141893 ; Patent No. 5489519 ; GENERAL INFORMATION ; APPLICANT: Cole. Susan P.C.	APPLICANT: Deeley, Roger G. TITLE OF INVENTION: MULTIDRUG RESISTANCE PROTEIN NUMBER OF SEQUENCES: CORRESPONDENCE ADDRESS: ADDRESSEE: LAHIVE & COCKFIELD STREET: 60 STATE STREET, SUITE 510 CITY: BOSTON	; STATE: MASSACHUSETTS ; COUNTRY: USA ; COMPUTER READABLE FORM: ; MEDIUM TYPE: Flore disk	COMPUTER: IBM PC_Compatible COMPUTER: IBM PC_COMPATIBLE COMPUTER: Patentin Release #1.0, Version #1.25 CURRENT APPLICATION DATA: CURRENT APPLICATION NUMBER: US/08/141,893 FILING DATE: CLASSIFICATION: 424	; PRIOR APPLICATION DATA: ; APPLICATION UNBER: 07/966,923; 08/029,340 ; FILING DATE: 27-0CT-1992; 8-MAR-1993 ; ATTORNEY/AGENT INFORMATION: ; NAME: DECONTI, Giullo A. Jr. ; REGISTRATION NUMBER: 31.503	REFERENCE/DOCKET NUMBER: POI-002 TELECOMMUNICATION INFORMATION: TELECOMMUNICATION INFORMATION: TELEFAX: (617) 227-7400 TELEFAX: (617) 227-5149 INFORMATION FOR SEQ ID NO: 2: SEQUENCE CHARACTERISTICS: INFORMATION ACIDES		Query Match 79.3%; Score 7849; DB 1; Length 1531; Best Local Similarity 99.9%; Pred. No. 0; Matches 1529; Conservative 0; Mismatches 2; Indels 0; Gaps 0;	QY 1 MALKGFCSADGSDPLWDWNVTWNTSNPDFTKCFQNTVLVWVPCFYLWACFPFYFLYLSRH 60	OY 61 DRGYIQMTPLAKTKTALGFLLWIVCWADLFYSFWERSRGIFLAFVFLVSFTLLGITTLLA 120

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Pred. No. 0;
0; Mismatches
                                                                                                                                                       Query Match 79.3%;
Best Local Similarity 99.9%;
Matches 1529; Conservative
                    SEQUENCE CHARACTERISTICS:
LENGTH: 1531 amino acids
TYPE: amino acid
  INFORMATION FOR SEQ ID NO:
                                                                                               , MOLECULE TYPE: protein US-08-463-092B-2
                                                                                 linear
                                                                               TOPOLOGY:
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APPLICANT: Cole, Susan P.C.
APPLICANT: Cole, Susan P.C.
APPLICANT: Deeley, Roger G.
TITLE OF INVENTION: 150LATED NUCLEIC ACID MOLECULES ENCODING
TITLE OF INVENTION: 150LATED NUCLEIC ACID MOLECULES ENCODING
TITLE OF INVENTION: 150LATED NUCLEIC ACID MOLECULES
OCRESPONDENCES: 9 CORRESS:
ADDRESSES: PARTEO RESEARCH & DEVELOPMENT INNOVATIONS
STREET: Queen's University at Kingston CITY: Kingston COUNTRY: CANADA
COUNTRY: CANADA
COUNTRY: CANADA
COMPUTER: READABLE FORM:
MEDIUM TYPE: FLORPY disk
COMPUTER: ASCII text
COMPUTER: ASCII text
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COMPUTER: ASCII text
APPLICATION NUMBER: US/08/463,092B
FILING DATE: 05-UN-1995
CLASSIFICATION LATS
APPLICATION NUMBER: 08/029,340
FILING DATE: 8-NAR-1993
CLASSIFICATION NUMBER: 08/029,340
FILING DATE: 20-NAR-1995
CLASSIFICATION NUMBER: 08/029,340
FILING DATE: 20-NAR-1995
CLASSIFICATION NUMBER: 08/029,340
FILING DATE: 20-NAR-1995
CLASSIFICATION NUMBER: 08/029,340
FILING DATE: 20-NAR-1995
CLASSIFICATION NUMBER: 08/029,340
FILING DATE: 20-NAR-1995
CLASSIFICATION NUMBER: 08/029,340
FILING DATE: 30-NAR-1995
CLASSIFICATION NUMBER: 08/020,340
FILING DATE: 08/020,340
FILING DATE: 08/020,340
FILING DATE: 08/0
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REGISTRATION NUMBER: 39,539
REFERENCE/DOCKET NUMBER: Q1546
TELECOWUNICATION INFORMATION:
TELEPHONE: (613) 545-2342
TELEFAX: (613) 545-6853
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 2, Application US/08463092B Patent No. 5766880
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; Pred. No. 0;
0; Mismatches
                 FILING DATE: 8-MAR-1993
APPLICATION NUMBER: 08/141,893
FILING DATE: 26-0CT-1993
APPLICATION NUMBER: 08/407,207
FILING DATE: 20-MAR-1995
ATTORNEY,FAGENT INFORMATION:
NAME: DeConti, Giulio A. Jr.
REGISTRATION NUMBER: 31,503
REFERENCE/DOCKET NUMBER: PQI-002CP4
TELECOMUNICATION INFORMATION:
TELEPAN: (617) 227-7400
TELEPAN: (617) 227-5941
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 1531 amino acids
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                                                                                                                                                                                                                                                                                                                                                                                      Query Match 79.3
Best Local Similarity 99.9
Matches 1529; Conservative
                                                                                                                                                                                                                                                                                             TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
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US-08-462-109A-2
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1201 VRLECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTYLNWLVRMSSEMETNIVA
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Patent No. 5882875
GENERAL INFORMATION:
APPLICANT: Cole, Susan P.C.
APPLICANT: Deeley, Roger G.
TITLE OF INVENTION: METHODS FOR IDENTIFYING
TITLE OF INVENTION: MULTIDRUG RESISTANT TUMOR CELLS
NUMBER OF SEQUENCES: 6
CORRESPONDENCE ADDRESS:
ADDRESSEE: LAHIVE & COCKFIELD
STREET: 60 State Street, suite 510
CITY: Boston
STATE: Massachusetts
COUNTRY: USA
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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTMARE: ASCII text
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/462,109A
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CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/96
FILING DATE: 27-0CT-1992
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CLASSIFCATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: Steeq, Carol Miernicki
REGISTRATION NUMBER: 39,539
REFERENCE/DOCKET NUMBER: Q1551
TELECOMMUNICATION INFORMATION:
TELEPHONE: (613) 545-2342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 INFORMATION FOR SEQ ID NO: 2: SEQUENCE CHARACTERISTICS:
TENGTH: 1531 pm'-
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Best Local Similarity 99.9
Matches 1529; Conservative
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MOLECULE TYPE: protein
             COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy of COMPUTER: IBM PC COMI
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US-08-460-907B-2
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                 721 SLRENILFGCQLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGQKQRVSLAR
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Sequence 2, Application US/08460907B

Patent No. 5891744

GENERAL INFORMATION:
APPLICANT: Deeley, Roger G.
TITLE OF INVENTION: METHODS FOR CONFERRING MULTIDRUG

TITLE OF INVENTION: MESSISTANCE ON A CELL
NUMBER OF SEQUENCES: 9

CORRESPONDENCE ADDRESS:
ADDRESSER: PARTEQ RESEARCH & DEVELOPMENT INNOVATIONS
STREET: Queen's University at Kingston
CITY: Kingston
STATE: Ontaxio
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COMPUTER: FLORING disk
COMPUTER: FLORING disk
COMPUTER: FLORING SOFTWARE: FLORING SOFTWARE: APCIL text
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/460,907B
FILING DATE: 05-JUN-1995
CLASSIFICATION: 424
PRIOR APPLICATION: 424
PRIOR APPLICATION: 424
PRIOR APPLICATION: 424
PRIOR APPLICATION: 424
PRIOR APPLICATION DATA: APPLICATION NUMBER: 08/029,340
FILING DATE: 8-MAR-1993
CLASSIFICATION: 424
PRIOR APPLICATION: 424
PRIOR APPLICATION: 424
PRIOR APPLICATION: 424
PRIOR APPLICATION: 424
PRIOR APPLICATION NUMBER: 08/407,207
FILING DATE: 26-0CT-1993
FILING DATE: 20-MAR-1995
CLASSIFICATION: 424
PRIOR APPLICATION NUMBER: 08/407,207
FILING DATE: 20-MAR-1995
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LLLIOLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD 240
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                                                                                                                                                                                APPLICANT: COLE, Susan P.C.
APPLICANT: Deeley, Roger G.
TITLE OF INVENTION: METHODS FOR IDENTIFYING CHEMOSENSITIZERS
NUMBER OF SEQUENCES:
ADDRESSEE: LAHIVE & COCKFIELD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 1531;
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Score 7849; DE; Pred. No. 0; 0; Mismatches
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FILING DATE: 27-0CT-1992
APPLICATION NUMBER: 08/029,340
FILING DATE: 8-MR-1993
APPLICATION NUMBER: 08/141,893
FILING DATE: 26-0CT-1993
APPLICATION NUMBER: 08/407,207
FILING DATE: 20-MAR-1995
ATTORNEY/AGENT INFORMATION:
NAME: DECONTI, Giulio A. Jr.
REGISTRATION NUMBER: 901-002CP8
REFERRICE/DOCKET NUMBER: 901-002CP8
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECAX: (617) 227-7400
TELECAX: (617) 227-591
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: ASCII text
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/463,179A
FILING DATE:
CLASSIFICATION: 536
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/966,923
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MEDIUM TYPE: Floppy disk
COMPUTER: IGN FC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOPTWARE: ASCII text
                                                                                                                                                                                                                                                                                      AUDRESSEE: LAHIVE & COCKFIELD STREET: 60 State Street, suite CITY: Boston
                                                                                                                             US/08463179A
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Similarity 99.9%;
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Best Local Similarity 99.9
Matches 1529; Conservative
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COUNTRY: USA
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US-08-463-179A-2
; Sequence 2, Application
; Patent No. 6001563
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                                                                                                            481 AVMAMKTKTYQVAHMKSKDNRIKLMNEILNGIKVLKLYAWELAFKDKVLAIRQEELKVLK
                                                                                                                                                                                                KSAYLSAVGTFTWVCTPFLVALCTFAVYVTIDBINILDBAQTAFVSLALFNILRFPLNILP
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  GEIVNLMSVDAQRFMDLATYINMIWSAPLQVILALYLLWLNLGPSVLAGVAVMVLMVPVN
                            GEIVNIMSVDAQREMDLATYINMIWSAPLQVILALYLLWINLGPSVLAGVAVWVLMVPVN
                                                                                   AVMAMKTKTYQVAHMKSKDNRIKLMNEILNGIKVLKLYAWELAFKDKVLAIRQEELKVLK
                                                                                                                                                                       KSAYLSAVGTFTWVCTPFLVALCTFAVYVTIDENNILDAQTAFVSLALFNILRFPLNILP
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1441 ARALLRKTKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVL 1500
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1441 ARALIRKTKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVL
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US-08-461-384B-2
IS-208-461-384B-2
IS-208-461-384B-2
IS-208-461-384B-3
IS-208-461-384B-3
IS-208-461-384B-3
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Pred. No. 0;
0; Mismatches
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TELECOMMUNICATION INFORMATION:
TELEPHONE: (613) 545-2342
TELEFAX: (613) 545-6853
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
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REGISTRATION NUMBER: 39,539
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1201 VRLECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTYIANWLVRMSSEMETNIVA 1260
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  LWSLNKEDTSEQVVPVLVKNWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVEAL
                                 241 LWSLNKEDTSEOVVPVLVKOMKKECAKTRKOPVKVVYSSKDPAOPKESSKVDANEEVEAL
                                                                                                           IVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPD
                                                                                                                                                                                                                                             361 WQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSSTV
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us-10-665-283-1.rai

Db 1141 KRLESVSRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKN Qy 1201 VRLECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVT: Db 1201 VRLECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVT:	Qy 1261 VERLKEYSETEKEAPWQIQETAPPSSWPQVGRVEFRNYCLR) Db 1261 VERLKEYSETEKEAPWQIQETRPPSSWPQVGRVEFRNYCLR)	Qy 1321 EKVGIVGRTGAGKSSLTLGLFRINESAEGEIIIDGINIAKIG	1381	1441	DD 1501 DKGEIQEYGAPSDLLQQRGLFYSMAKDAGLV 1531	RESULT 13 US-08-407-207A-2 ; Sequence 2, Application US/08407207A	; FACENIC NO. 0030521 ; GENERAL INFORMATION: ; APPLICANT: Deeley, Roger G. ; APPLICANT: Oole, Susan P. C	HILLIB OF INTERNITY ANTICOLIS OF HIGHER STATES OF SEQUENCES: 7 CORRESPONDENCE ADDRESS: 5 ADDRESSEE PARTEQ RESEARCH & DEVELOPMENT INNOVA: 5 CORRESPONDENCE INTERVENCE OF SECURITY OF SECURITY OF SECURITY OF SECURITY OF SEC		A REI	CERRAILING STOLEM: FC-505, NO. 505 SOFTWARE: SACII LEXT; CURRENT APPLICATION DATA: APPLICATION NUMBER: US)68/407,207A FILTATION DATE: 20,000,000,000	CLASSIFICATION: 424 ; PRIOR APPLICATION DATA: ; APPLICATION NUMBER: 07/966,923	; FILING DATE: 2'-01-129. ; APPLICATION NUMBER: 08/029,340 ; FILING DATE: 8-MAR-1993 ; APPLICATION NUMBER: 08/141,893	HILLING DATE: 20-CLI-1995  ATTORNEY AGENT INFORMATION: NAME: Steeg, Carol Miernicki REGISTRATION NUMBER: 39,539  REGISTRATION NUMBER: 39,539	10N:	; INFORMATION FOR SEQ 1D NO: 2: ; SEQUENCE CHARACTERISTICS: ; LENGTH: 1531 amino acids ; TYPE: amino acid	; TOPOLOGY: linear ; MOLECULE TYPE: protein US-08-407-207A-2
61 DRGYIQMTPLNKTKTALGFLLWIVCNADLFVSFWERGRGIFLAPVFLVSFTLLGITTLLA 120 121 TFLIQLERKKVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDIFFVYVFS 180	121 TFLIQLERRKGVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS 180 181 LLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLGRITFWWITGLIVRGYRQPLEGSD 240	LILIQIVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYROPLEGSD LWSLNKEDTSEQVVPVLVKNWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVEAL	241 LWSLNKEDTSEGVVPVLVKNWKKECAKTRKQPVKVVYSSKUPAQFKESSKVJANEKVELL 300 301 IVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLWMFSGPQILKLLIKFVNDTKAPD 360 301 IVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPD 360	361 WQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSSTV 420 	421 GEIVNLMSVDAQRFMDLATYINMIWSAPLQVILALYLLMLNLGPSVLAGVAVMVLMVPVN 480 	481 AVMANKTKTYQVAHMKSKDNRIKLANBILNGIKVLKLYAWELAFKDKVLAIRQBELKVLK 540 	541 KSAYLSANGTETWVCTPFLVALCTFAVYVTIDENNILDAQTAFVSLALFNILRFPLNILP 600 	601 MVISSIVQASVSLKRIRIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTWARSDPPT 660 	661 INGITESIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAWIQND 720 	721 SLRENILFGCQLEEPYYRSVIQACALLEDLEILPSGDRTEIGEKGVNLSGGGKORVSLAR 780	781 AVYSNADIYLFDDPLSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIV 840 	841 MSGCKISEMGSYQELLARDGAFAEFLRTYASTEGEODAEENGYTGVSGPCKEAKQWENGM 900 	901 LVTDSAGKQLQRQLSSSSSYSGDISRHHNSTAELQKAEAKKEETWKLMEADKAQTGQVKL 960 	961 SVYWDYMKAIGLFISFLSIFLFMCNHVSALASNYWLSLWTDDPIVNGTQEHTKVRLSVYG 1020 	1021 ALGISQGIAVFGYSMAVSIGGILASRCLHVDLLHSILRSPMSFFERTPSGNLVNRFSKEL 1080 	1081 DTVDSMIPEVIKMFMGSLFNVIGACIVILLATPIAALIIPPLGLIYFFVQRFYVASSRQL 1140 	
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		RESULT 14 US-08-463-092B-6 is Sequence 6, Application US/08463092B ; Patent No. 5766880 is GENERAL INFORMATION: APPLICANT: Cole, Susan P.C. APPLICANT: Deeley, NGOR P.C. TITLE OF INVENTION: NGOLATED NUCLEIC ACID MOLECULES ENCODING TITLE OF INVENTION: MULTIDRUG RESISTANCE PROTEINS NUMBER OF SEQUENCES: CORRESPONDENCE ADDRESS: STREET: Queen's University at Kingston CITY: Kingston STATE: Ontario CONFTX: CANADA STATE: Ontario CONFTX: CANADA STATE: TANADA COMPUTER READABLE FORM: COMPUTER: TRAPE: FORM: COMPUTER: TRAPE: TRAPE COMPATIBLE COMPUTER: TRAPE COMPATIBLE COMPUTER: TRAPE COMPATIBLE	OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: ASCII text CURRENT APPLICATION DATA: APPLICATION NUMBER: US/08/463,092B FILING DATE: 05-UN-1995 CLASSIFICATION DATA: APPLICATION DATA: PRIOR APPLICATION DATA: PRIOR APPLICATION 135 PRIOR APPLICATION 135 PRIOR APPLICATION 135 PRIOR APPLICATION 135 PRIOR APPLICATION 135 PRIOR APPLICATION 135 PRIOR APPLICATION 135 PRIOR APPLICATION DATA: APPLICATION NUMBER: 08/029,340 FILING DATE: 8-MAR-1993 CLASSIFICATION 135 PRIOR APPLICATION DATA: APPLICATION NUMBER: 08/111,893
Ouery Match Best Local Similarity 99.9%; Pred. No. 0; Matches 1529; Conservative 0; Mismatches 2; Indels 0; Gaps 0; Matches 1529; Conservative 0; Mismatches 2; Indels 0; Gaps 0;  Oy   MALKGFCSADGSDPLWDWNVTWNTSNPDFTKCFONTVLVWVPCFYLWACFFFYLYLSRH 60  Oy   61 DRGYIQMTPLNKTKTALGFLLWIVCWADLFYSFWERSRGIFLAPVFLVSFTLIGITTLIA 120  Oy   61 DRGYIQMTPLNKTKTALGFLLWIVCWADLFYSFWERSRGIFLAPVFLVSFTLIGITTLIA 120  Oy   121 TFLIQLERRKGVOSSGIMLTFWLVALAGALAILRSKIMTALKBDAQVDLFFYVFS 180	Db 121	Qy         481 AWMAMKTKTYQVAHMKSKDNRIKLANEILNGIKVLKLYAWELAFKDKVLAIRQBELKVLK 540           Db         481 AVMAMKTKTYQVAHMKSKDNRIKLANEILNGIKVLKLYAWELAFKDKVLAIRQBELKVLK 540           Qy         541 KSAYLSAVGTFTWVCTPFLVALCTFAVYVTIDENNILDAQTAFVSLALFNILRPPLNILD 600           Db         541 KSAYLSAVGTFTWVCTPFLVALCTFAVYVTIDENNILDAQTAFVSLALFNILRPPLNILD 600           Co         601 MVISSIVQASVSLKRLRIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTWARSDPPT 600           Db         601 MVISSIVQASVSLKRLRIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTWARSDPPT 600           Co         661 LNGITFSIPEGALVAVVGQVGGGSSSLSALLAEMDKVEGHVAIKGSVAYVPQQAMIQND 720           Co         1 [	QY         781 AVYSNADIYLPDDPLSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIV 840           Db         781 AVYSNADIYLPDDPLSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIV 840           QY         841 MSGGKISEMGSYQELLARDGAFAFFLRTYASTFQEQDAEENGVTGVSGPGKEAKQMENGM 900           Bb         841 MSGGKISEMGSYQELLARDGAFAFFLRTYASTFQEQDAEENGVTGVSGPGKEAKQMENGM 900           QY         901 LVTDSAGKQLQRQLSSSSSYSGDISRHHNSTAELQKAEAKKEFTWKLMEADKAQTGQVKL 960           Db         901 LVTDSAGKQLQRQLSSSSSYSGDISRHHNSTAELQKAEAKKEFTWKLMEADKAQTGQVKL 960           QY         961 SVYMDYMKAIGLFISFLSIFLFMCNHVSALASNYMLSLWTDDPIVNGTQEHTKVRLSVYG 1020           QY         961 SVYMDYMKAIGLFISFLSIFLFMCNHVSALASNYMLSLWTDDPIVNGTQEHTKVRLSVYG 1020           Db         961 SVYMDYMKAIGLFISFLSIFLFMCNHVSALASNYMLSLWTDDPIVNGTQEHTKVRLSVYG 1020

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US-08-462-109A-6

US-08-462-109A-6

Sequence 6, Application US/08462109A

Patent No. 5882875

GENERAL INFORMATION:

APPLICANT: Deeley, Roger G.

TITLE OF INVENTION: METHODS FOR IDENTIFYING

TITLE OF INVENTION: MILIIDRUG RESISTANT TUMOR CEL

NUMBER OF SEQUENCES: 6

NUMBER OF SEQUENCES: 6

SORRESPONDESSEE: LAHIVE & COCKFIELD

STREET: 60 State Street, suite 510
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STATE: Massachusetts
COINTRY: USA
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FILING DATE: 26-0CT-1993
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/407,207
FILING DATE: 20-MAR-1995
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Steeg, Carol Miernicki
REGISTRATION NUMBER: 39,539
REFERENCE/DOCKET NUMBER: 39,539
REFERENCE/DOCKET NUMBER: 01546
TELEPHONE: (613) 545-2342
INFORMATION FOR SEQ ID NO: 6: SEQUENCE CHARACTERISTICS:
LENGTH: 1528 amino acids
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MOLECTLE TYPE: protein

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VGEIVNLMSVDAQRFMDLATYINMIWSAPLQVILALYLLWLNLGPSVLAGVAVNVLMVPV 479
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TFLIQLERRKGVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS 180
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NAVMAMKTKTYQVAHMKSKONRIKLMOIKVLKLYAWELAFKOKVLAIRQEELKVL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DWGGYFYTVLLFVIACLGTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSST
                                                                                                                                                                                                                                                                                                                                                                                                                                         1 MALRGECSADGSDPLWDWNVTWNTSNPDFTKCFONTVLVWVPCFYLWACFPFYFLYLSRH
                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 MALRSFCSADGSDPLWDWNVTWHTSNPDFTKCPQNTVLTWVPCFYLWSCFPLWFFYLSRH
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                                                                                                                                                                                                                                                                                                                                                                                            Length 1528
                                                                                                                                                                                                                                                                                                                                                                                                                   75; Indels
                                                                                                                                                                                                                                                                                                                                                                                              DB 2;
                                                                                                                                                                                                                                                                                                                                                                                            Ouery Match 70.7%; Score 7002.5; Best Local Similarity 88.0%; Pred. No. 0; Matches 1349; Conservative 102; Mismatches
                                                                                          CLASSIFICATION 435
PRIOR APPLICATION DATA:
PELICATION NUMBER: 07/966,923
PILING DATE: 27-0CT-1992
APPLICATION NUMBER: 08/029,340
PILING DATE: 8-MAR-1993
APPLICATION NUMBER: 08/141,893
FILING DATE: 26-0CT-1993
APPLICATION NUMBER: 08/407,207
FILING DATE: 20-MAR-1995
ATTORNEY/AGENT INFORMATION:
NAME: DeConti, Giulio A. Jr.
REGISTRATION NUMBER: 9QI-002CP4
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 227-7400
TELEPHONE: (617) 227-5941
INFORMATION FOR SEQ ID NO: 6:
SEQUENCE CHARACTERISTICS:
  COMPUTER READABLE FORM:
MEDLIUM TYPE: Floppy disk
COMPUTER: IBM FC COMPACIALE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII text
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/462,109A
                                                                                                                                                                                                                                                                                                                        LENGTH: 1528 amino acids
                                                                                                                                                                                                                                                                                                                                            TOPOLOGY: linear
MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                      amino acid
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March 18, 2005, 11:03:55 ; Search time 609.338 Seconds (without alignments) 1045.320 Million cell updates/sec Run on:

US-10-665-283-1 9903 1 MALRGFCSADGSDPLWDWNV.....RSVAVAKAKPKFSISPDSLS 1927 Title: Perfect score: Sequence:

BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

1401741 seqs, 330541175 residues Searched:

Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 200000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Database :

Published Applications AA:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

					SUMMAKIES	
Result No.	Score	* Query Match	% Query Match Length DB	рв	OI.	Description
1	7860	79.4	1531	17	US-09-939-853A-86	Sequence 86, Appl
7	7860	79.4	1531	16	US-10-667-891-6	Sequence 6, Appli
ო	7860	79.4	1531	17	US-10-484-577-678	Sequence 678, App
4	7769	78.5	1515	11	US-09-939-853A-87	Sequence 87, Appl
2	7037	71.1	1388	16	US-10-408-765A-1718	Sequence 1718, Ap
9	7002.5		1528	11	US-09-939-853A-88	
7	4491.5	45.4	1527	11	US-09-939-853A-83	Sequence 83, Appl
80	4491.5		1527	11	US-09-939-853A-84	Sequence 84, Appl
σ	4491.5		1527	15	US-10-295-027-1342	Sequence 1342, Ap
10	4396		1522	11	US-09-939-853A-85	Sequence 85, Appl
11	3860.5		1548	16	US-10-667-891-1	Sequence 1, Appli
12	3603.5		1505	16	US-10-667-891-4	Sequence 4, Appli
13	3601.5		1499	16	US-10-667-891-3	Sequence 3, Appli

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DRGYIQMTPLNKTKTALGFLLMIVCWADLFYSFWERSRGIFLAPVFLVSFTLLGITTLLA 120

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Sequence 4, Appli	Sequence 4, Appli	24	56	28	30	32	34,	38,	40,	46,	48	'n	ý	ω̈	10	Sequence 12, Appl	14	ĭ	'n	4	4	ñ	m	ĕ	6	m	Sequence 3, Appli	1583,	Sequence 6697, Ap	6867,	6868,
US-10-363-112-4	US-10-252-155-4	10-252-1	2	2-155	10-25	10-252-155	10-252-155-3	10-252-155	10-252-155	10-252-155	10-252-155	10-36	10-363-112-	10-363-112	10-36	10-363-112-1	10-363-112-1	10-363-112	US-10-667-891-5	⋍	10-252-	10-741-	10-74	US-10-252-155-36	_	39-792-616	US-10-764-328-3	10-741-600-		-9	US-10-369-493-6868
15	15	15	15	15	15	15	15	15	15	15	15	15	12	15	15	15	15	15	16	15	15	16	16	15	12	10	16	11	15	15	15
1542	1545	1545	1545	1545	1545	1545	1545	1545	1545	1545	1545	1545	1545	1545	1545	1545	1545	1545	1507	1545	1545	1545	1545	1545	1545	1503	1503	1503	1494	1573	1573
36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.3	36.3	36.3	36.3	36.3	36.3	•	34.2	•		33.2	32.6	32.6
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## ALIGNMENTS

scoding Same

RESULT 1 US-09-939-853A-86			
; Sequence 86, Application US/09939853A			
; FUDIICACION NO. USZUO40039163A1 ; GENERAL INFORMATION:			
; APPLICANT: Burgess et al.	,		;
; TITLE OF INVENTION: No. US20040039163Alel Proteins and Nucleic Acids Encodin	nd Nuclei	c Acids 1	Sncodin
; FILE REFERENCE: 21402-099			
; CURRENT APPLICATION NUMBER: US/US/959,855A			
PRIOR APPLICATION NUMBER: 60/228,191			
; PRIOR FILING DATE: 2000-08-25			
; PRIOR FILING DATE: 2001-02-20			
; PRIOR APPLICATION NUMBER: 60/277,337			
; PRIOR FILING DATE: 2001-03-20			
; NUMBER OF SEQ ID NOS: 159			
; SOFTWARE: PatentIn Ver. 2.1			
; SEQ ID NO 86			
; LENGTH: 1531			
; TYPE: PRT			
; ORGANISM: Homo sapiens			
US-09-939-853A-86			
	ength 15	31;	
Best Local Similarity 100.0%; Pred. No. 0; Matches 1531; Conservative 0; Mismatches 0; Indels	Indela	0; Gaps	9 0 3
Qy 1 MALRGECSADGSDPLWDWNVTWNTSNPDFTKCEQNTVLVWVPCFYLWACFPFYFLYLSRH	PCFYLWACE	PFYFLYLS	09 HZ
Db 1 MALRGFCSADGSDPLWDWNVTWNTSNPDFTKCFQNTVLVWVPCFYLWACFPFYFLYLSRH	CFYLWACE	PFYFLYLS	и е

Qy         1201 VRLECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTTYLNMLVRMSSEMETNIVA 1260           Db         1201 VRLECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTTYLNMLVRMSSEMETNIVA 1260           Qy         1261 VERLKEYSETEKBAPWQIQETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRHINVTINGG 1320           Db         1261 VERLKEYSETEKBAPWQIQETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRHINVTINGG 1320           Qy         1321 EKVGIVGRTGAGKSSLTLGLFRINESAEGEIIIDGINIAKIGLHDLRFKITTIPQDPVLF 1380           Db         1321 EKVGIVGRTGAGKSSLTLGLFRINESAEGEIIIDGINIAKIGLHDLRFKITTIPQDPVLF 1380           Qy         1381 SGSLRMNLDPFSQYSDEEVWTSLELAHLKDPVSALPDKLDHECAEGGGENLSVGQRQLVCL 1440           Db         1441 ARALLRKTKILVLDEATAAVDLETDDLIOSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVL 1500           Qy         1501 DKGEIQEYGAPSDLLQQRGLFYSMAKDAGLV 1531           Db         1501 DKGEIQEYGAPSDLLQQRGLFYSMAKDAGLV 1531	RESULT 2 US-10-667-891-6  18-10-667-891-6  19-10-10-667-891-6  19-10-10-10-10-10-10-10-10-10-10-10-10-10-	Query Match Best Local Similarity 100.0%; Pred. No. 0; Matches 1531; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  Qy 1
61 DRGYIQMTPLANKTKTALGFLLMIVCWADLFYSFWERSRGIFLAPVFLVSFTLLGITTLLA 120 121 TFLIQLERRKGVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS 180 121 TFLIQLERRKGVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS 180 121 TFLIQLERRKGVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS 180 181 LLLIQLVLSCFSDRSPLFSETHIDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD 240 181 LLLIQLVLSCFSDRSPLFSETHIDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD 240 241 LMSLNKEDTSEQVVPULVKNWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVEAL 300 241 LWSLNKEDTSEQVVPULVKNWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVEAL 300 10 LVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPD 360 11 LWSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPD 360 11 LWSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPD 360 11 LWSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPD 360 11 LWSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPD 360 11 LWSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLITRSARKSSTV 420 11 LWSPQKEWNPSLFVTACLCTLVLHQYFHLCFVSGMRIKTRAVIGAVYRKALVITNSARKSSTV 420 11 LWSPQKEWNPSLFVTACLCTLVLHQYFHICFVSGMRIKTRAVIGAVYRKALVITNSARKSSTV 420 11 LWSPQKEWNPSUFWLLATYNMIWSAPLQVILALYLLMLNIGGPSVLAGVAVNVLMVVVN 480 12 GEIVNLMSVDAQRFMDLATYINMIWSAPLQVILALYLLMLNIGGPSVLAGVAVNVLMVVPVN 480 12 GEIVNLMSVDAQRFMDLATYINMIWSAPLQVILALYLLMLNIGGPSVLAGVAVNVLMVPVN 480	481 AVMANKTKTYQVAHMKSKDNRIKLANBILLNGIKVLKLYAWBLAFKDKVLAIRQBELKVLK 540 481 AVMANKTKTYQVAHMKSKDNRIKLANBILLNGIKVLKLYAWBLAFKDKVLAIRQBELKVLK 540 481 AVMANKTKTYQVAHMKSKDNRIKLANBILLNGIKVLKLYAWBLAFKDKVLAIRQBELKVLK 540 541 KSAYLSAVGTFTWVCTPFLVALCTFAVYVTIDENNILDAQTAFVSLALFNILRFPLNILD 600 541 KSAYLSAVGTFTWVCTPFLVALCTFAVYVTIDENNILDAQTAFVSLALFNILRFPLNILD 600 601 MVISSIVQASVSLKRLRIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTWARSDPPT 660 601 MVISSIVQASVSLKRLRIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTWARSDPPT 660 601 MVISSIVQASVSLKRLRIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTWARSDPPT 660 601 MVISSIVQASVSLKRLRIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTWARSDPPT 660 601 MVISSIVQASVSLKRLRIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTWARSDPPT 660 601 MVISSIVQASVSLKRLRIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTWARSDPPT 660 601 MVISSIVQASVSLKRLRIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTWARSDPPT 660 601 MVISSIVQASVSLKRLRIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTWARSDPPT 660 601 MVISSIVQASVSLKRLRIFLINGINGINGINGINGINGINGINGINGINGINGINGINGI	
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us-10-665-283-1.rapb

241 IMSLNKEDTSEQVVPULVKNWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVBAL 300 301 IVKSPQKEMNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPD 360 301 IVKSPQKEMNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPD 360 301 IVKSPQKEMNFSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPD 360 301 MQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSSTV 420 301 MQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSSTV 420 421 GEIVNIMSVDAQRFMDLATYINMIWSAPLQVILALYLLMLNLGPSVLAGVAVMVLMVPVN 480 421 GEIVNIMSVDAQRFMDLATYINMIWSAPLQVILALYLLMLNLGPSVLAGVAVMVLMVPVN 480	OY 1381 SCSLRWNLDPFSQYSDEEVWTSLELAHLKDPVSALPDKLDHECAEGGENLSVGQRQLVCL 1440  1381 SGSLRWNLDPFSQYSDEEVWTSLELAHLKDPVSALPDKLDHECAEGGENLSVGQRQLVCL 1440  1381 SGSLRWNLDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLVCL 1440  OY 1441 ARALLRKTKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVL 1500  1441 ARALLRKTKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVL 1500  OY 1501 DKGEIQEYGAPSDLLQQRGLFYSWAKDAGLV 1531  DD 1501 DKGEIQEYGAPSDLLQQRGLFYSWAKDAGLV 1531
 481 AVWAMKTYYQVAHMKSKDNBIKLANBILNGIKVLKLYAWBLAFKDKVLAIRQBELKVLK 540	RESULT 3 US-10-484-577-678  US-10-484-577-678  Sequence 678, Application US/10484577  Publication No. US20050032724A1  GENERAL INFORMATION:  APPLICANT: EPIDAUROS Biotechnologie Aktiengesellschaft  TITLE OF INVENTION: Means and methods for improved treatment of cancer based on UGTIV
 601 MVISSIVQASVSLKRLRIFLSHEBLEDDSIBERPVKDCGGTNSITVRNATFTWARSDPT 660	; TLDE KEEKENCE: FZ625LV1.1 ; CURRENT APPLICATION NUMBER: US/10/484,577 ; CURRENT FILING DATE: 2004-01-22 ; FRIOR APPLICATION NUMBER: PCT/EP 02/08220 ; FRIOR FILING DATE: 2002-07-23 ; FRIOR APPLICATION NUMBER: EP 01 11 7608.8 ; FRIOR FILING DATE: E001-07-23 ; FRIOR APPLICATION NUMBER: EP 0201.710.7
 SLRENILFGCQLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGQKQRVSLAR	PRIOR FILING DATE: 2002-05-24  NUMBER OF SEQ ID NOS: 683  SOFTWARE: PATENTIN Version 3.1  SEQ ID NO 678  LENGTH: 15.31  TYPE: PRT
 	; ORGANISM: Homo sapiens US-10-484-577-678  Query Match Best Local Similarity 100.0%; Pred. No. 0; Matches 1531; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 LVTDSAGKOLOROLSSSSSYSGDISRHINSTAELOKAEAKKEBTWKLMEADKAOTGOVKL 	ADMNUTMNISNPDFTKCPQNTULVWVPCPYLWACPPFYFI 
 961 SVYWDYMKAIGLFISFLSIFLEMCNHVSALASNYWLSLWTDDPIVNGTQEHTKVRLSVYG 1020 	Qy 61 DRGYIQMTPLNKTKTALGFLLWIVCWADLFYSFWERSRGIFLAPVFLVSFTLLGITTLLA 120
 1021 ALGISOGIAVECYSMAVSIGGILASRCLHVDLLHSILRSPMSFFERTPSGNLVNRFSKEL 1080 	Qy 121 TFLIQLERRKGVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS 180
 1081 DTVDSWIPEVIKMFMGSLFNVIGACIVILLATPIAAIIIPPLGLIYFFVQRFYVASSRQL 1140 	Qy 181 LLIOLVISCESDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD 240
 1141 KRLESVSRSPVYSHFNETLLGVSVIRAFEEGERFIHQSDLKVDENQKAYYPSIVANRMLA 1200 	Qy 241 LWSLNKEDTSEQVVPULVKAWKKECAKTEKQPVKVYSSKDPAQPKESSKVDANEEVEAL 300
 1201 VRLECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLOVTTYLNWIVRMSSEMETNIVA 1260 	Qy 301 IVKSPQKEWNPSLFKVLYKTFGPYFLMSFPFKAIHDLMMFSGPQILKLLIKFVNDTKAPD 360 
 1261 VERLKEYSETEKEAPWOIQETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRH. 	Oy 361 WGGYFYTVLLFVTACLQTLVLHOYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSSTV 420
 1321 EKVGIVGRTGAGKSSLTLGLFRINESAEGEIIIDGINIAKIGLHDLRFKITIIPQDFVLF 1380 	QY 421 GEIVNIMSVDAQRFMDLATYINMIMSAPLQVILALVILMINLGPSVLAGVAVMVIAVPVN 480

Same

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RIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTWARSDPPTLNGITFSIPEGALVAV
                                                                                                                                                                                                          Length
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100.0%; Pred. No. 0;
ative 0; Mismatches
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Best Local Similarity 100.
Matches 1515, Conservative
                                                                                                                                                                           ; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-939-853A-87
                                                                                                                                                                   LENGTH: 1515
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1 Sequence 87, Application US/09939853A

1 Publication No. US20040039163A1

2 Sequence 87, Application US/09939853A

3 Publication No. US20040039163A1

3 APPLICANT: Burgess et al.

4 TITLE OF INVENTION: No. US20040039163A1e1 Proteins and Nucleic Acids Encoding Same

7 TITLE OF INVENTION: No. US20040039163A1e1

7 TITLE OF INVENTION: NO. US2004009

7 CURRENT APPLICATION NUMBER: US/09/939, 853A

7 CURRENT FILING DATE: 2000-08-25

8 PRIOR PILING DATE: 2000-08-26

9 PRIOR PILING DATE: 2001-02-08

9 PRIOR PLING DATE: 2001-02-08

9 PRIOR PLING DATE: 2001-03-20

9 PRIOR PLING DATE: 2001-03-20

9 PRIOR FILING DATE: 2001-03-20

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9 PRIOR PLING DATE: 2010-03-20

9 PRIOR PLING DATE: 2001-03-20

9 PRIOR PLING DATE: 2010-03-20

9 PRIOR PLING DATE: 2010-03-20 240 196 180 256 316 376 360 436 480 556 540 919 300 420 496 900 919 9 96 137 IMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFVVYFSLLLIQLVLSCFSDRSP PFLVALCTFAVYVTIDENNILDAQTAFVSLALFNILRFPLNILPMVISSIVQASVSLKRL 1 DWNVTWNTSNPDFTKCFQNTVLVWVPCFYLWACFPFYFLYLSRHDRGYIQMTPLNKTKTA 121 IMLTFWLVALVCALAILRSKIMTALKEDAOVDLFRDITFYVYFSLLLIOLVLSCFSDRSP LFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSDLWSLNKEDTSBQVVPV 241 LVKNWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVEALIVKSPQKEMNPSLFKV LFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSDLWSLNKEDTSEQVVPV LVKNWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVEALIVKSPQKEWNPSLFKV 317 LYKTEGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPDWQGYFYTVLLFVTACL DWNVTWNTSNPDFTKCFQNTVLVWVPCFYLWACFPFYFLYLSRHDRGY1QMTPLNKTKTA PFLVALCTFAVYVTIDENNILDAQTAFVSLALFNILRFPLNILPMVISSIVQASVSLKRL ö

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APPLICANT: Glenn, Gary M.  APPLICANT: Glenn, Gary M.  AITLE OF INVENTION: TARGETS FOR THERAPEUTIC INTERVENTION TITLE OF INVENTION: IDENTIFIED IN THE MITOCHONDRIAL PROTEOME TITLE OF INVENTION: LIDENTIFIED IN THE MITOCHONDRIAL PROTEOME FILE REFERENCE: 660088.465 CURRENT PFLIAND DATE: 2003-04-04 NUMBER OF SEQ ID NOS: 3077 SOFTWARE: FastSEQ for Windows Version 4.0 SEQ ID NO 1718 LENGTH: 1388	; TYPE: PRT ; ORGANISM: Homo sapiens US-10-408-765A-1718 US-10-408-765A-1718 US-10-408-765A-1718  Query Match Sest Local Similarity 97.0%; Pred. No. 0; Matches 1387; Conservative 0; Mismatches 1; Indels 42; ( QY 67 MTPLNKTKTALGFLWIVCWADLFYSFWERSRGIFLAPVFLVSPTLLGITTILATI Db 1 MTPLNKTKTALGFLWIVCWADLFYSFWERSRGIFLAPVFLVSPTLLGITTILATI Db 1 MTPLNKTKTALGFLWIVCWADLFYSFWERSRGIFLAPVFLVSPTLLGITTILATI Db 1 MTPLNKTKTALGFLLWIVCWADLFYSFWERSRGIFLAPVFLVSPTLLGITTMLLATI	Qy         127 ERRKGVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFSLI           Db         61 ERRKGVQSSGIMLTFWLVALVCALAILRSKIMTALKE		Db 379 TKTYQVAHMKSKÖNRIKLANBILNGIKVLKLYAWELAFKÜKVLAIRQBELKVLKCK  QY 547 AVGTFTWVCTPFLVALCTFAVYVTIDENNILDAGTAFVSLALENILRFPLNILPM  QY 607 VQASVSLKRLRIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTWARSDPTLL  Db 499 VQASVSLKRLRIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTWARSDPTLL  QY 667 TANGATATATATATATATATATATATATATATATATATAT	Qy         727 LFGCQLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGOKQRVSLARA           bb         619 LFGCQLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGOKQRVSLARA           Qy         787 DIYLFDDPLSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIVM           Qy         11
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KBWNPSLFKVLYKTFGPYFLMSFFFKAIHDLAMFSGPQILKLLIKFVNDTKAPDWGYFY 366
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                               DB 16;
                              71.1%; Score 7037; Di
97.0%; Pred. No. 0;
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Comparison   Com	Db 739 SEMGSYQELLARDGAFAEFLRTYASTEQEQDAEENGVTGVSGPGKEAKQMENGMLVTDSA 798	Qy 1 MALKGFCSADGSDPLWDWNTWNTSNPDFTKCFQNTVLVWV	PCFYLWACFPFYFLYLSRH 60
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11	799 GKQLQRQLSSSSSSSGDISRHHNSTAELQKAEAKKEETWKLMEADKAQTGQVKLSVYWDY 85	61 DRGYI	
11	967 MKAIGLFISFLSIFLEMCNHVSALASNYMLSLWTDDPIVNGTQEHTKVRLSVYGALGISQ 102.	61 DRGYI	TMLLA
11	obs megreteristeristrernnvaalabnimistwijurivelvklikvklisvigalgisQ	121	FYVYFS
11.11	1027 GIAVFGYSMAVSIGGILASRCLHYDLLHGILRSPMSFFRRTPSGNLWNRFSKELDTVDSM 108 	121	- 2
11   12   12   12   13   13   14   14   14   14   14   14	1087 IPEVIKWPMGSLFNVIGACIVILLATPIAAIIIPPIGLIYFFVQRFYVASSRQLKRLBSV 114	181	24
	979 IPEVIKMFMGSLFNVIGACIVILLATPIAAIIIPPLGLIYFVQRFYVASSRQLKRLESV 103	. 241	5
10	1147 SRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRWLAVRLECV	241	m
10	1039 SRSPVYSHFNETLLGVSVIRAFEEGERFIHQSDLKVDENQKAYYPSIVANRWLAVRLECV	300	35
Column   C	1207 GNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVITYLNWLVRMSSEMETNIVAVERLKE 1	301	m
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100   100	1387 NLDPFSQYSDEBVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLVCLARALLR 144	481	
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	S-09-939-853A-88   Sequence 88, Application US/09939853A   Publication No. US20040039163A1	099	
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	PRIOR APPLICATION NUMBER: 60/228,191 PRIOR FILING DATE: 2000-08-25	780	
	PRIOR APPLICATION NUMBER: 60/267,300 PRIOR FILING DOS-08	840	
OY 900 MLYTDSAGKQLORQLSSSSYSGDISRHHNSTAELQKAGARKKEETWKLMEADKAQTGQVK 959	FRICK PARILING DATE: 2001-02-02 PRIOR FILING DATE: 2001-03-30 PRIOR APPLICATION NUMBER: 60/277 327	840	
Db 897 MLVTDTVGKHLQRHLSNSSHSGDTSQQHSSLAELWKLMEADKAQTGQVO 955  QY 960 LSVYWDYMKAIGLFISFLSIFLFMCNHVSALASNYMLSLWTDD-PIVNGTQEHTKVRLSV 101  Db 956 LSVYWNYMKAIGLFISFLSIFLFMCNHVSALASNYMLSLWTDD-PVNGTQENTKVRLSV 101  QY 1019 YGALGISQGIAVFGYSMAVSIGGILASRCLHVDLLHSILRSPMSFFERTPSGNLVNRFSK 107  CO 1019 YGALGILQGAAIFGYSMAVSIGGIFASRCLHVDLLHSILRSPMSFFERTPSGNLVNRFSK 107  Db 1016 YGALGILQGAAIFGYSMAVSIGGIFASRRLHLDLLYNVLRSPMSFFERTPSGNLVNRFSK 107  CO 1079 BLDTVDSMIPBVIXMFMGSLFNJGACIVILLATPIAAIIIPPLGLIYFFVQRFYVASSR 113	PRIOR FILING DATE: 2001-03-20 NUMBER OF SEQ ID NOS: 159	006	
	SOFTWARE: Patentin Ver. 2.1 SEQ ID NO 88	897	95
Oy 1019 YGALGISQGIAVFGYSMAVSIGGILASRCLHVDLHSILRSPMSFFERTPSGULVNRFSK 107  70.7%; Score 7002.5; DB 11; Length 1528;  Db 1016 YGALGISQGIAVFGYSMAVSIGGILASRCLHVDLHSILRSPMSFFERTPSGULVNRFSK 107  Best Local Similarity 88.0%; Pred. No. 0;  Matches 1349; Conservative 102; Mismatches 7; Gaps 5;  Qy 1079 ELDTVDSMIPEVIKWFWGSLFNVIGACIVILLATPIAAIIIPPLGLIXFFVORFYVASSR 113	LENGTH: 1528 TYPE: PRT ORGANISM: Mus musculus	960	
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Qy 1079 ELDTVDSMIPEVIKMFMGSLFNVIGACIVILLATPIAALIIPPLGLIYFFVQRFYVASSR	Score 7002.5; DB 11; Length 1528; Pred. No. 0; O. 1	1016	107
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US-09-939-8534-83

Sequence 83, Application US/09939853A

Publication No. UG20040039163A1

GENERAL INFORMATION:

APPLICANT: Burgess et al.

TITLE OF INVENTION: No. US20040039163A1el Proteins and Mucleic Acids Encoding Same FILE REFERENCE: 21402-099

CURRENT APPLICATION NUMBER: US/09/939,853A

CURRENT FILING DATE: 2001-08-27

PRIOR PILING DATE: 2000-08-25

PRIOR PELICATION NUMBER: 60/267,300

PRIOR PLING DATE: 2001-02-08

PRIOR PLING DATE: 2001-02-08

PRIOR PLING DATE: 2001-02-08

PRIOR PLING DATE: 2001-03-00

NUMBER: 60/277,337

PRIOR PLING DATE: 2001-03-20

NUMBER: 96-27

PRIOR PLING DATE: 2001-03-20

NUMBER: 96-27

PRIOR PLING DATE: 2001-03-20

NUMBER: 96-27

SOFTWARE: PLEATION NUMBER: 60/277,337

PRIOR PLING DATE: 2001-03-20

SOFTWARE: PLEATION VUMBER: 50/277,337

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03   1252   SEMETNIVAVERLKEYSETEKEAPWOIGETAPPSSWPQVGRVEFRNYCLRYREDLDFYLR   1311   1348   13	RESULT 8  US-09-939-853A-84  Sequence 84, Application US/09939853A  Sequence 84, Application US/09939853A  Publication No. US20040039163A1  GENERAL INFORMATION:  APPLICANT: Burgess et al.  TITLE OF INVENTION: No. US20040039163A1e1 Proteins and Nucleic Acids Encoding FILE REFERENCE: 21402-099  CURRENT FILING DATE: 2001-08-27  PRIOR APPLICATION NUMBER: 60/228,191  PRIOR FILING DATE: 2001-02-08  PRIOR FILING DATE: 2001-02-08  PRIOR FILING DATE: 2001-02-08  PRIOR FILING DATE: 2001-03-09  PRIOR FILING DATE: 2001-03-09  PRIOR FILING DATE: 2001-03-20  PRIOR FILING DATE: 2001-03-20  PRIOR FILING DATE: 2001-03-20  TYPE: PatentIn Ver. 2.1  SEQ ID NO 84  LENGTH: 1527  TYPE: PRI  TYPE: PRI  TYPE: PRI  TYPE: PRI  TYPE: PRI  TYPE: PRI  SCORDNISM: Homo capiens  US-09-939-853A-84	Query Match

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                  VGQRQLVCLARALLRKTKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTI
                                    1428 VGORQLVCLARALLRKSRILVLDEATAAIDLETDNLJQATIRTQFDTCTVLTJAHRLNTI
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APPLICANT: Glynne, Richard
APPLICANT: Hevezi, Peter A.
APPLICANT: Murray, Richard
APPLICANT: Watson, Susan R.
APPLICANT: Watson, Susan R.
APPLICANT: Watson, Susan R.
APPLICANT: Watson, Susan R.
APPLICANT: Watson, Susan R.
APPLICANT: Watson, Susan R.
APPLICANT: Watson, Susan R.
APPLICANT: Watson, Susan R.
APPLICANT: Watson, Susan R.
APPLICANT: Mathods of Diagnosis of Cancer, Compositions and TITLE OF INVENTION: Methods of Screening for Modulators of Cancer
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SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 1342
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Best Local Similarity 56.7%; Pred. No. 0;
Matches 873; Conservative 260; Mismatches 371; Indels
                                                                              TILLE OF INDIVIDUAL MECLOGIS OF SCIENTING IN THE PERENKE: 108501-012500US
CURRENT APPLICATION NUMBER: US/10/295,027
CURRENT FILING DATE: 2002-11-13
PRIOR PELLORATION NUMBER: US 60/350,666
PRIOR FILING DATE: 2001-11-13
PRIOR FILING DATE: 2001-11-15
PRIOR PELLORATION NUMBER: US 60/335,394
PRIOR FILING DATE: 2001-11-15
PRIOR PELLORATION NUMBER: US 60/332,464
PRIOR FILING DATE: 2001-11-29
PRIOR PELLORATION NUMBER: US 60/340,376
PRIOR FILING DATE: 2001-11-29
PRIOR PELLORATION NUMBER: US 60/340,376
PRIOR FILING DATE: 2001-11-24
PRIOR PELLOR DATE: 2001-11-24
PRIOR PELLOR DATE: 2001-11-34
PRIOR PELLOR DATE: 2001-008
PRIOR PELLOR NUMBER: US 60/347,211
PRIOR PELLOR ON NUMBER: US 60/347,349
PRIOR PELLOR DATE: 2002-01-10
PRIOR APPLICATION NUMBER: US 60/347,349
PRIOR PELLING DATE: 2002-01-10
PRIOR PELLING DATE: 2002-01-10
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PRIOR PELLING DATE: 2002-01-10
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PRIOR PELLING DATE: 2002-01-10
PRIOR PELLING DATE: 2002-01-10
                                                                                                                                                                                              Sequence 1342, Application US/10295027
Publication No. US20030232350A1
GENERAL INFORMATION:
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APPLICANT: Aziz, Natasha
APPLICANT: Ginsberg, Wendy M.
APPLICANT: Gish, Kurt C.
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US-10-295-027-1342
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US-10-295-027-1342
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| APPLICANT: BREY, PAUL T. |
| APPLICANT: BREY, PAUL T. |
| APPLICANT: BREY, PAUL T. |
| APPLICANT: GRAILIES, MARINE |
| APPLICANT: GRAILIES, MARINE |
| APPLICANT: RZHETSKY, ANDREY |
| TITLE OF INVENTION: MULTIDENG RESISTANCE PROTEINS IN DROSOPHILA AND |
| TITLE OF INVENTION: MUNDERS: US/10/667,891 |
| TITLE OF INVENTION: WINDERS: US/10/667,891 |
| CURRENT FILING DATE: 2003-09-23 |
| PRIOR PAPLICATION NUMBER: 60/413,469 |
| NUMBER OF SEQ ID NOS: 76 |
| SOFTWARE: PATCHTIN UNCS: 76 |
| SEQ ID NO 1. |
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Best Local Similarity 50.0%; Pred. No. 2e-314;
Matches 784; Conservative 274; Mismatches 438; Indels
                                                                             YTRVIVLDKGEIQEYGAPSDLLQQRGLFYSMAKDAGL 1530
                                                                                         Sequence 1, Application US/10667891
Publication No. US20040171024A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: PRT
ORGANISM: Drosophila melanogaster
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; Sequence 3, Application US/10667891
; Publication No. US20040171024A1
; GENERAL INFORMATION:
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Publication No. US20040171024A1
GENERAL INFORMATION:
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SUBJICATION NO. US20040091964A1
GENERAL INFORMATION:
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: THE AUSTRALIAN NATIONAL UNIVERSITY
APPLICANT: HARRIS, MATTHEW
TITLE OF INVENTION: MODIFIED PROTEINS, ISOLATED NOVEL PEPTIDES, AND USES THEREOF
FILE REFERENCE: 007643-0302189
CURRENT PILING DATE: 2003-11-03
PRIOR APPLICATION NUMBER: PCT/AU01/01093
PRIOR APPLICATION NUMBER: 60/229,663
PRIOR FILING DATE: 2000-08-31
NUMBER OF SEQ ID NOS: 62
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                           APPLICANT: BREY, PAUL T.
APPLICANT: HOLM, INGE
APPLICANT: GRALILES, MARKINE
APPLICANT: GRALILES, MARKINE
APPLICANT: RZHETSKY, ANDREY
TITLE OF INVENTION: MULTIDRUG RESISTANCE PROTEINS IN DROSOPHILA AND
TITLE OF INVENTION: MUCPHELES
FILE REFERENCE: 03495.0294-00000
CURRENT PELICATION NUMBER: 05/10/667,891
CURRENT FILING DATE: 2003-09-23
PRIOR PILING DATE: 2003-09-26
PRIOR PILING DATE: 2002-09-26
NUMBER OF SEQ ID NOS: 76
SOFTWARE: PATENTIN VET. 3.2
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Best Local Similarity 47.9%; Pred. No. 1.2e-292;
Matches 744; Conservative 283; Mismatches 448; Indels
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US-10-667-891-3
     ROTH, CHARLES W.
BREY, PAUL T.
HOLM, INGE
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TITLE OF INVENTION: HUMAN SINGLE NUCLECTIOE POLYMORPHISMS IN ORGANIC ANION TRANSPORT TITLE OF INVENTION: HUMAN SINGLE NUCLECTIOE POLYMORPHISMS IN ORGANIC ANION TRANSPORT TITLE OF INVENTION: MULTI-DRUG RESISTANT PROTEINS
FILE REPERENCE: DO152 NP
CURRENT APPLICATION NUMBER: US/10/252,155
CURRENT APPLICATION NUMBER: US 60/324,172
PRIOR PILING DATE: 2001-09-21
PRIOR PILING DATE: 2001-09-21
PRIOR PRILIG DATE: 2001-03-31,700
PRIOR FILING DATE: 2001-11-27
NUMBER OF SEQ ID NOS: 783
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                                               VSALASNYWLSLWT-DDPIVNGTQ---EHTKVRLSVYGALGISQGIAVFGYSMAVSIGGI
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                              AELQKAEAKKEET----WKLMEADKAQTGQVKLSVYWDYMKAIGLFISFLSIFLFMCNH
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EIGEKGINLSGGQKQRISLARATYQNLDIYLLDDPLSAVDAHVGKHIFNKVLGPNGLLKG 812
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        116 TILLATFLIQLERRKGVQSSGIMLT-FWLVALVCALAILRSKIMTALKEDAQVDLFRDIT 174
                                                                                                                                                                                                                                                                                                                       FYVYPSLLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQ 234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -----EENGVTGVSGPGKEAKQMENGMLVTDSAGKQLQRQLSSSSSYSGDISRHHNST 931
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GHVAIKGSVAYVPQQAMIQNDSLRENILFGCQLEEPYYRSVIQACALLPDLEILPSGDRT
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                                                                                                                                                                                                                                                                                                                                         PLEGSDLWSLNKEDTSEQVVPVLVKNWKKECAKTRK-------QPVKVVYSSKD
                                                                                                                                                                                                                                                                                                                                                                                             3 LRGFCSADGSDPLWDWNVTWNTS-----NPDFTKCFQNTVLVWVPCFYLWACFPFYFL--
                                                                                                                                                                                                            56 YLSRHDRGYIQMTPLNKTKTALGFLLWIVCWADLFYSFWERSRGIFLAPVFLVSPTLLGI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LNLGPSVLAGVAVMVLMVPVNAVMAMKTKTYQVAHMKSKDNRIKLMNEILNGIKVLKLYA
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                                                                                                                             Gaps
                                                                                                                            72;
                                                                                                                          Indels
                                                                                               Query Match 36.4%; Score 3600; DB 15; Best Local Similarity 47.6%; Pred. No. 1.6e-292; Matches 747; Conservative 287; Mismatches 462;
                          LENGTH: 1542
TYPE: PRT
ORGANISM: Homo sapiens
SOFTWARE: Patentin
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P &	56	YLSRHDRGYIQMTPLNKTKTALGFLLWIVCWADLFYSFWERSRGIFLAPVFLVSPTLGI 115 
SP GS	116	TTLLATFLIQLERRKGVQSSGIMLT-FWLVALVCALAILRSKIMTALKEDAQVDLFRDIT 174
දු පු	175	FYVYFSLLLIOLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQ 234
ò qa	235	PLEGSDLWSLNKEDTSEQVVPVLVKOWKKECAKTRK
è q	282	PAQPKESSKVDANEEVEALIVKSPQXEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMM 339     :::
& g	340	FSGPQILKLLIKEVNDTKAPDWQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTAV 399
දු දු	397	IGAVYRKALVITNSARKSSTVGEIVNLMSVDAQRFMDLATYINMIWSAPLQVILALYLLW 459 
o da	460	LNLGPSVLAGVAVMVLMVPVNAVMAMKTKTYQVAHMKSKDNRIKLAMBILNGIKVLKLYA 519 
op Q	520	WELAFKDKVLAIRQEELKVLKKSAYLSAVGTFTWVCTPFLVALCTFAVYVTIDENNILDA 579 
ço d	580	QTAFVSLALFNILRFPLNILPMVISSIVQASVSLKRLRIFLSHEELEPDSIERRPVKDGG 639 
\$ g	640	GTNSITVRNATFTWARSDPPTLNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKVE 699 ::
b ç	700	GHVAIKGSVAYVPQQAWIQNDSLRENILFGCQLEEFYYRSVIQACALLPDLEILPSGDRT 759   :    :       :       ::::       :
දු පු	760	EIGEKGVNLSGGQKQRVSLARAVYSNADIYLPDDPLSAVDAHVGKHIFENVIGPKGMLKN 819 
O Op	820	KTRILVTHSMSYLPQVDVIIVMSGGKISEMGSYQELLARDGAFAEFLRTY-ASTEGEODA 878    :       :     ::      : :
cy Sp	879	EENGVTGVSGPGKEAKQMENGMLVTDSAGKQLQRQLSSSSSYSGDISRHHNST 931
è 8	932	AELQKAEAKKEETWKLMEADKAQTGQVKLSVYMDYMKAIGLFISFLSÎFLFMCNH 986 : :
oy Dp	987	VSALASNYWLSLWT-DDPIVNGTQEHTKVRLSVYGALGISQGIAVFGYSWAVSIGGI 1042 

1290 PPPDWPSKGKIQFNNYQVRYRPELDLVLRGITCDIGSMEKIGVVGRTGAGKSSLTNCLFR 1349 1223 HSLSAGLVGLSVSYSLQVTTYLNWLVRMSSEMETNIVAVERLKEYSETEKEAPWQIQETA 1282 PPSSWPQVGRVEFRNYCLRYREDLDFVLRHINVTINGGEKVGIVGRTGAGKSSLTLGLFR 1342 1523 SMAKDAGL 1530 |||:||: 1530 FMAKEAGI 1537 1283 1403 1410 1463 1470 음 상 셤 ò g 중 음 8 B 6 g Š ద Š В ò 셤

Search completed: March 18, 2005, 11:51:40 Job time : 617.338 secs

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March 18, 2005, 10:57:19 ; Search time 138.282 Seconds (without alignments) 5389.603 Million cell updates/sec
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9903
1 MALRGFCSADGSDPLWDWNV......RSVAVAKAKPKFSISPDSLS 1927
GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
                                                                              - protein search, using sw model
                                                                                                                                                                                                                                                                        BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                             Title:
Perfect score:
                                                                                                                                                                                                                                                                            Scoring table:
                                                                              OM protein
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                                                                                                                Run on:
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Minimum DB seq length: 0 Maximum DB seq length: 200000000

Total number of hits satisfying chosen parameters:

2105692 seqs, 386760381 residues

Searched:

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

geneseqp2002s:\* geneseqp2003as:\* geneseqp2003bs:\* geneseqp2004s:\* geneseqp1980s:\* geneseqp1990s:\* geneseqp2000s:\* geneseqp2001s:\* A\_Geneseq\_16Dec04:\* Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Description	Aaw57486 Human MRP	Aaw74471 Human mul	Aaw99894 Human mul	Aay55799 Human mul	Aay78873 Multidrug	Abg61810 Prostate	Abm35012 Cancer ba	Adb20865 MRP1 base	Adb87954 Human UGT	Adb96937 Human MDR		4	Adn97111 MRP1 prot	_	Aar54928 Multidrug	Aar93153 Multi-dru	Aaw57485 Human mul	Aaw74470 Human mul	Aaw99893 Human mul	Aay55798 Human mul	_	_	Aar96952 Multi-dru	Adn03902 Antipsori	Adp23422 PRO polyp
ID		AAW74471	AAW99894	AAY55799	AAY78873	ABG61810	ABM35012	ADB20865	ADB87954	ADB96937	ADB92128	ADD44764	ADN97111	ADN95929	AAR54928	AAR93153	AAW57485	AAW74470	AAW99893	AAY55798	AAY78872	AAB03582	AAR96952	ADN03902	ADP23422
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& Query Match		79.4	79.4	79.4	79.4	79.4	79.4	79.4	79.4	79.4	79.4	79.4	79.4	79.3	79.3	79.3	79.3	79.3	79.3	79.3	79.3	79.3	76.8	9.9/	76.6
Score	7860	7860	7860	7860	7860	7860	7860	7860	7860	7860	7860	7860	7860	7856	7849	7849	7849	7849	7849	7849	7849	7849	7610	7587.5	7587.5
Result No.	7	8	٣	4	ß	9	7	ω	6	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25

		Aaw74472 Mouse mul Aaw99895 Mouse mul Aay55800 Murine mu Aav78874 Murine mu	~~~	Human Human Canco PRO 1
ABP52108 AAR96953 AAR96954	ADF56611 AAR96955 ADJ69912 AAW57487	AAW74472 AAW99895 AAY55800 AAY78874	ARR98211 AAR96956 AAU91309	ABES639 ADE54387 ADE64387 ADP24088 AAY43543
0000	- 0 - 0		0 0 0 0 0	28776
1481 1482 1472	1530 1417 1388 1528	1528 1528 1528 1528	1345	1527 1527 1527 1527 1527
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7572 7560.5 7500.5	7230.5 7194 7037 7002.5	7002.5 7002.5 7002.5	6916 6911 4491.5	44491.5 44491.5 4491.5 4481.5
26 27 28	33103	3 3 3 3 3 4 3 3 4 3 4 3 4 3 4 3 4 5 4 5	9 8 8 7 8 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	. 4 4 4 4 4 5 4 5 6 6 7

## ALIGNMENTS

RESULT 1

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2105692

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DNA encoding protein associated with multi-drug resistance - useful for as probe for identifying multi-drug resistant tumour cells.
                                                                                       Multidrug resistance-associated protein, MRP; tumour, human; variant; multidrug resistance, MDR; leismania P-glycoprotein; ltPgpA; Lei/PgpA.
                                                                                                                                                                                         /label= R1282A
/note= "wild-type Arg is replaced by Ala"
                                                                                                                                                         )
|Jabel= L685S
|note= "wild-type Leu is replaced by Ser"
1282
                                                                  Human MRP variant ltPgpA (Lei/PgpA).
       AAWS7486 standard; protein; 1531 AA
                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 1; Col 67-78; 82pp; English.
                                                                                                                                                                                                                                                                                   92US-00966923.
93US-00029340.
93US-00141893.
95US-00407207.
                                                                                                                                                                                                                                                                 95US-00463092
                                                                                                                                                                                                                                                                                                                                      (TOOH ) UNIV QUEENS KINGSTON
                                                (first entry)
                                                                                                                                                                                                                                                                                                                                                           Cole SP, Deeley RG;
                                                                                                                                                                                                                                                                                                                                                                              WPI; 1998-361687/31.
N-PSDB; AAV31498.
                                                                                                                                           Key
Misc-difference
                                                                                                                                                                                 Misc-difference
                                                                                                                                                                                                                                                                                   27-OCT-1992;
08-MAR-1993;
26-OCT-1993;
20-MAR-1995;
                                                                                                                      Homo sapiens
                                                                                                                                                                                                                                                               05-JUN-1995;
                                                                                                                                                                                                                         US5766880-A.
                                                14-AUG-1998
                                                                                                                                                                                                                                             16-JUN-1998
                            AAW57486;
AAW57486
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This represents a variant of the human multidrug resistance-associated protein (MRP). This natural variant is a leismania P-glycoprotein related

보고된

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molecule ltPgpA (Lei/PgpA). The human and murine MRP nucleic acid molecules can be used as probes for identifying multidrug resistant tummour cells by hybridisation to mRNA from tummour cells. The antisense nucleic acid can be used to reverse multidrug resistance (MDR). A recombinant expression vector containing the MRP nucleic acid molecules operatively linked to at least one regulatory sequence can be used to transform a host cell to produce a recombinant MDR-associated protein
                                                                                                                                                                                                            TFLIQLERRKGVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS
                                                                                                                                                                                                                                                                                                                     IVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MALRGFCSADGSDPLWDWNVTWNTSNPDFTKCFQNTVLVWVPCFYLWACFPFYFLYLSRH
                                                                                                                                                                                                                                                          TFLIQLERRKGVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS
                                                                                                                                                                                                                                                                                                        LLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD
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                                                                                                                                                                                                                                                                                                                                                                   IVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPD
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RG; Deeley

WPI; 1999-214061/18. N-PSDB; AAX21977

Identifying a multidrug resistant tumor cell by contacting the cell with an antibody/antigen-binding fragment - which binds to an expressed protein encoded by multidrug resistance-associated protein (MRP) nucleic

Claim 3; Col 69-80; 80pp; English.

This sequence is the human multidrug resistance-associated (MDR) protein.

The invention relates to a method for identifying a multidrug resistant

(MDR) tumour cell. Compositions and methods utiliaing the MDR proteins

can be used to treat patients with tumours displaying multidrug

resistance, particularly those displaying resistance to anthracyclines,

spipodophyllotoxins, vinca alkaloids, and hydrophobic drugs. The methods

continibiting/killing a MDR tumour cell can be useful for treating

breast cancer, leukaemias, fibrosarcomas, cervical cancer, gliomas,

thyomas, neuroblastomas and lung cancer. The MDR DNA sequences when

labeled are useful as molecular probes for diagnosing multidrug

resistance of a tumour (using capable of cleaving a single-stranded

nucleic acid encoding a protein having MRP activity. Recombinant

expression vectors containing human MDR coding sequences can be

transfected into a drug sensitive cell line to produce a protein in the

call which confers MDR, protecting non-resistant non-tumour cells from

transformed with the MDR coding sequences are useful for testing

containing therapeutics has major clinical importance. Cells

containing therapeutic agents for their effectiveness against MDR cells

containing therapeutic agents for their effectiveness against MDR cells 

Sequence 1531 AA;

Gaps ö Length 1531; Indels ; 0 .; 7 DB Query Match 79.4%; Score 7860; I Best Local Similarity 100.0%; Pred. No. 0; Matches 1531; Conservative 0; Mismatches

1 MALRGFCSADGSDPLWDWNVTWNTSNPDFTKCFQNTVLVWVPCFYLWACFPFYFLYLSRH

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120 120 180 180 240 9 DRGYIOMTPLNKTKTALGFLLMIVCWADLFYSFWERSRGIFLAPVFLVSFTLLGITTLLA TFLIQLERRKGVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS 1 MALRGFCSADGSDPLWDWNVTWNTSNPDFTKCFQNTVLVWVPCFYLWACFPFYFLYLSRH TFLIQLERRKGVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS 61 61 121 121 a 8 g ò a ઠ

LLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD LWSLNKEDTSEQVVPVLVKNWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVEAL 181 181 241

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IVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPD IVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPD WQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSSTV WQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIXTAVIGAVYRKALVITNSARKSSTV 301 301 361 361

481 AVMAMKTKTYQVAHMKSKDNRIKLMNEILNGIKVLKLYAWELAFKDKVLAIRQEELKVLK 540 

GEIVNLMSVDAQRFMDLATYINMIWSAPLQVILALYLLWLNLGPSVLAGVAVMVLMVPVN

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1020 1080 SVYWDYMKAIGLFISFLSIFLFMCNHVSALASNYWLSLWTDDPIVNGTQEHTKVRLSVYG SVYWDYMKAIGLFISFLSIFLFMCNHVSALASNYWLSLWTDDFIVNGTQEHTKVRLSVYG ALGISQGIAVFGYSMAVSIGGILASRCLHVDLLHSILRSPMSFFERTPSGNLVNRFSKEL ALGISQCIAVFGYSMAVSIGGILASRCLHVDLLHSILRSPMSFFERTPSGNLVNRFSKEL 1021 961 1021 961 ò g ò ብ ጵ

VRLECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTTYLNWLVRMSSEMETNIVA 1260 1261 VERLKEYSETEKEAPPQIQETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRHINVTINGG VRLECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTTYLNWLVRMSSEMETNIVA VERLKEYSETEKEAPWQIQETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRHINVTINGG 1201 1201 1261 8 8 ద ò 셤 ò

SGSLRWNLDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLVCL 1440 ARALLRKTKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVL 1500 EKVGIVGRTGAGKSSLTLGLFRINESAEGEIIIDGINIAKIGLHDLRFKITIIPQDPVLF EKVGIVGRIGAGKSSLTLGLFRINESAEGEIIIDGINIAKIGLHDLRFKITIIPQDPVLF SGSLRMNLDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLVCL 1321 1441 1321 1381 1381

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       IVKSPQKEMNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPD
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                                                                                                                                                                                                                                                                                                                                                                    Chemosensitizer; multidrug resistance-associated protein; MRP; human; therapeutic agent; P-glycoprotein-mediated multidrug resistance; lung; cancer; variant.
                             EKVGIVGRTGAGKSSLTLGLFRINESAEGEIIIDGINIAKIGLHDLRFKITIIPODPVLF
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This sequence represents a human multidrug resistance protein (MRP) natural variant amino acid sequence. The human MRP confers multidrug resistance, including resistance to at least two drugs selected from anthracyclines, epipodophylloxins and vinca alkaloids, on a drug sensitive mammalian. Cell, when the protein is expressed in the cell. The multidrug resistance is not substantially reversed by chemosensitizers which reverse P-glycoprotein-mediated multidrug resistance. The MRP protein sequence can be used to generate antibodies against MRP. The MRP protein and nucleotide sequences can be used in compositions which are used to treat patients with tumours displaying multidrug resistance. The compositions and methods of the invention can be used particularly to treat breast cancer, leukaemias, fibrosancements cervicely sliomas, thymonas, neuroblastomas, and lung cancer. Antibodies directed against the multidrug resistance of a multidrug
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100.0%; Pred. No. 0;
ive 0; Mismatches
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The present invention relates to methods of detecting a prostate cancerassociated transcript in a cell from a patient. The method comprises contacting a biological sample from the patient with prostate cancerassociated polymuclectides (designated.PC genes) that selectively hybridise to a sequence that is at least 80% identical to them. The hybridise to a sequence that is at least 80% identical to them. The constate cancer-associated polymuclectide sequences are differentially expressed in prostate tumour tissue or in prostate cancer and are derived from the tissues of various organisms such as humans or other mammals for mice, sheep and dogs). The methods of the invention are useful for diagnosing and treating prostate cancer in mammals. The prostate cancer associated genes are useful for diagnosing or treating prostate cancer. The nucleic acid sequences are particularly useful in gene therapy, as a vaccine or in antisense applications.

Abg61800-Abg61944 represent prostate cancer associated proteins
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Detecting a prostate cancer-associated transcript in a cell in a patient, useful for diagnosing prostate cancer (PC) or screening modulators of PC, by determining if prostate cancer-associated genes are expressed in a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 27; Page 309; 436pp; English.
                                                                                                                                                                          16-MAR-2001; 2001US-0276791P.
16-MAR-2001; 2001US-027688P.
06-APR-2001; 2001US-0281922P.
30-APR-2001; 2001US-0286214P.
30-APR-2001; 2001US-0288589P.
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2001WO-US032045

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prostate tumour tissue, human, mammal, cytostatic.

protein #11

Prostate cancer-associated

Prostate cancer;

WO200230268-A2

18-APR-2002

(first entry)

15-AUG-2002

ABG61810 standard; protein; 1531

RESULT

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1441 ARALLRKTKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVL 1500
                                                                                                                                                                                                                                                                                                                                                                                                                              New use of irinotecan for preparation of compositions for treating in subject having genome with variant allele comprising cytochrome subfamily IIIA, polypeptide 5 polynucleotide, termed CYP3A5.
                                                                                                                                                                                               Cancer; CYP3A5; irinotecan; pharmaceutical; malignant glioma; cytochrome p450; subfamily IIIA; nifedipine oxidase; polypeptide
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                                                                                                   AVMAMKTKTYQVAHMKSKDNRIKLMNEIINGIKVLKLYAWELAFKDKVLAIRQEELKVLK
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The present invention describes the use of irinotecan (I) or its derivative for the preparation of a pharmaceutical composition for treating colorectal, cervical gastric, lung, ovarian or pancreatic cancer, or malignant glioma in a subject having a genome with a variant allele which comprises a cytochrome p450, subfamily IIIA (nifedipine condase), polypeptide 5 (CYPSAS) polynucleotide (II). (I) and (II) have cytostatic activity. The therapeutic applications of (I) is improved, since it is possible to individually treat a subject with an appropriate derivative of (I). Therefore, undesirable, harmful or toxic effects are efficiently avoided. Unnecessary and contranged or toxic effects are efficiently avoided. Unnecessary and contranged that substances (nonresponders), as well as the development of treatment with substances (nonresponders), as well as the development of cuty respisatences due to suboptimal drug dosing can be avoided. ACF62200 cto ACF62751 and ABM34912 to ABM35013 represent sequences used in the
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e use of irinotecan (1) or entical composition for varian or pancreatic a genome with a variant rotein 1 (MRP1) y. (1) or its derivative lical composition for varian or pancreatic HECAEGGENLSVGOROLVCÍ 1440 |||||||||||||||||||||||| HECAEGGENLSVGOROLVCL 1440 VLTIAHRLNTIMDYTRVIVL 1500 ||||||||||||||||||||||||| VLTIAHRLNTIMDYTRVIVL 1500 TTYLNWLVRMSSEMETNIVA 1260 RYREDLDFVLRHINVTINGG 1320 KVDENQKAYYPSIVANRWLA 1200 on of a pharmaceutical ng a genome with a protein 1 gastric cancer; malignant glioma; MRP1; cytostatic.

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XX innotecan; cancer; UGT1A1; cytostal colorectal cancer; cervical cancer; covarian cancer; pancreatic cancer; XX without appears and approximate glycosyltransfex XX WO2003013536-A2.
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ancer, or malignant glioma in a subject, where the subject is a human preferably African or Asian) or a mouse. The present sequence represents sequence which is used in the exemplification of the present invention.
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Use of irinotecan to treat cancer patient by determining if patient has variant alleles of UGTIA1 gene, administering increased/decreased amounts of irinotecan based on increased/decreased levels of UGTIA1 gene product.

SEQ ID NO 678; 107pp; English. Disclosure;

The invention relates to the novel use of irinotecan to treat a patient suffering from cancer. This involves determining if the patient has one or or more variant alleles of the UGTIA1 gene, and if the patient has one or more of such variant alleles, irinotecan is administered in an increased or decreased amount in comparison to the amount that is administered without regard to the patient's alleles in the UGTIA1 gene. The invention has cytostatic activity. A composition of the invention acts as a name of the invention acts as an animal e.g. mouse or a human, preferably African or Asian, suffering from cancer such as colorectal, cervical, gastric cancer, lung, ovarian, pancreatic cancer or malignant glioma. The present sequence is udes in the exemplification of the invention. 

Sequence 1531 AA;

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entry) (first 04-DEC-2003

ID NO:678 sequence protein related Human

irinotecan; colorectal cancer; cervical cancer; gastric cancer; lung cancer; ovarian cancer; pancreatic cancer; malignant glioma; multidrug resistance 1; MDR1; cytostatic; human; Cyp3A5; MRP1; TOP1. 

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AWAMKTKTYQVAHMKSKDNRIKLMNEILNGIKVLKLYAWELAFKDKVLAIRQEELKVLK
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multidrug resistance 1 polynucleotide.
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                                                                                                                                        irinotecan; colorectal cancer; cervical cancer; gastric cancer; lung cancer; ovarian cancer; pancreatic cancer; malignant glioma; multidrug resistance 1; MDR1; cytostatic; human; UGT1A1; MRP1; TOP1.
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ive 0; Mismatches
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                             standard; protein; 1531
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The invention discloses a composition comprising two or more isolated rat or human polynucleotides or a polynucleotide which represents a fragment, derivative or allelic variation of the nucleic acid sequence. Also claimed are a vector comprising the novel polynucleotide, a host cell comprising the vector, a method for identifying a nucleotide sequence which is differentially regulated in an animal subjected to pain and a chait is differentially expression of the polynucleotide sequence that increases or decreases the expression of the polynucleotide sequence that is differentially expressed in neuronal tissue of a first animal subjected to pain, a method for identifying a compound which regulates the expression of a polynucleotide sequence which is differentially compound that regulates the activity of one or more of the composition, a compound that regulates the activity of one or more of the composition, a method for identifying a pharmaceutical composition comprising the one or more confluction, a method for identifying a compound or small molecule that regulates the cativity in an animal of one or more of the polypeptides given in the specification, a method for identifying a compound useful in treating computates its activity is useful for preparing a medicament for treating modulates its activity is useful for preparing a medicament for treating confiniury (CCI) and spared nerve injury (SNI) in an animal (e.g. spinal segmental nerve injury (SNI)) in an animal (e.g. spinal segmental nerve injury (SNI)) in an animal (e.g. spinal personned nerve injury (SNI)) in an animal conficient the specification) which is differentially expressed during pain. Note:
New composition comprising two or more isolated polypeptides, useful for preparing a medicament for treating pain in an animal.
                                                                                                                                                                                                                                                                                                                                                       pain; neuronal tissue; gene therapy; segmental nerve injury; chronic constriction injury; CCI; nerve injury; SNI; Chung.
                                                                                                    Costigan M;
                                                                               DKGEIQEYGAPSDLLQQRGLFYSMAKDAGLV
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01-NOV-2001; 2001US-0346382P.
26-NOV-2001; 2001US-0333347P.
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The sequence data for this patent did not form part of the printed specification, but was obtained in electronic form directly from WIPO at ftp.wipo.int/pub/published_pct_sequences.
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                                                          The present invention relates to a purified polynucleotide or its fragment and comprises a sequence encoding multiple drug resistance proteins (WRRS) from Drosophila melanogaster or Anopheles gambiae. I polynucleotide is useful in developing effective insecticides. The present sequence represents human MRP1.
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SVYWDYMKAIGLEISFLSIFLFMCNHVSALASNYWLSLWTDDPIVNGTQEHTKVRLSVYG
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                                                                                                   SVYWDYMKAIGLFISFLSIFLFMCNHVSALASNYWLSLWTDDPIVNGTQEHTKVRLSVYG
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This invention relates to a method of differentially modulating the growth or differentiation of blood endothelial cells (BEC) comprises contacting endothelial cells with a composition comprising an agent that differentially modulates blood or lymphatic endothelial cells. Treating hereditary lymphoedema comprises identifying a human subject with lymphoedema and with a mutation in at least one allele of a gene encoding a LEC protein, where the mutation correlates with lymphoedema in human subjects, and with the proviso that the LEC protein is not VBGFR-3; and administering to the subject a correlates with lymphoedema in human subjects, and with the proviso that the LEC protein is not VBGFR-3; and administering to the subject a composition comprising a lymphatic growth agent selected from VBGF correct or vBGF-D polypeptides and polymucleotides. The invention may be useful for the development of compounds with an antiangiogenic, cytostatic, correction of antiinflammatory activity or for gene therapy. The method is useful in modulating the growth or differentiation of blood endothelial cells or lymphatic endothelial cells, in treating hereditary lymphatic proving the disorder or in monitoring the efficacy or toxicity of a drug on endothelial cells. The agent is useful in manufacturing a medicament for the differential modulation of blood vessel endothelial cells cell or lymphatic growth agent may also be used in manufacturing a medicament for the treatment of hereditary lymphoedema resulting the manufacturing a cell or lymphatic growth agent may also be used in manufacturing a medicament for the treatment of hereditary lymphoedema resulting the manufacturing a cell or lymphatic growth agent may also be used in manufacturing a cell or lymphatic growth agent may also be used in manufacturing a cell or lymphatic growth agent may also be used in manufacturing and cell or lymphatic growth agent may also be used in manufacturing and cell or lymphatic growth agent may also be used in manufacturing and cell or lymphatic gr
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Multi-drug resistance gene - encodes protein capable of conferring multi-drug resistance on cells, useful in diagnostic and treatment methods.
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DKGEIQEYGAPSDLLQQRGLFYSMAKDAGL
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Db 1381 SGSLRWILDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGGRQLVCL 1440

OY 1441 ARALLKTKILVLDEATAAVDLETDDLIGSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVL 1500

Db 1441 ARALLKTKILVLDEATAAVDLETDDLIGSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVL 1500

OY 1501 PKGEIQEYGAPSDLLQQRGLFYSMAKDAGIV 1531

Db 1501 DKGEIQEYGAPSDLLQQRGLFYSMAKDAGIV 1531

search completed: March 18, 2005, 11:02:13 fob time : 147.282 secs

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GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
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OM protein - protein search, using sw model

March 18, 2005, 10:57:20; Search time 45.2651 Seconds (without alignments) 4096.085 Million cell updates/sec Run on:

US-10-665-283-1 9903 1 MALRGFCSADGSDPLWDWNV......RSVAVAKAKPKFSISPDSLS 1927 Title: Perfect score: Sequence:

Scoring table:

BLOSUM62 Gapop 10.0 , Gapext 0.5

Total number of hits satisfying chosen parameters:

283416 seqs, 96216763 residues

Searched:

Minimum DB seq length: 0 Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

PIR 79:\*
1: pir1:\*
2: pir2:\*
3: pir3:\*
4: pir4:\* Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES	Description	multidrug resistan	canalicular multis	multidrug resistan	canalicular multid	protein F57C12.4 [	hypothetical prote	multidrug resistan	cadmium resistance	hypothetical prote	ABC transporter SP	ABC transporter At	glutathione S-conj	probable ABC trans	hypothetical prote	memb	probable ABC trans	glutathione-conjug	ABC transporter-li	hypothetical prote	multi resistance p		multi registance p	sulfonylurea recep	hypothetical prote	sulfonylurea recep		sulfonylurea recep	ABC transporter-li	
SUM	ΙD	DVHUAR	JE0336	\$71841	871839	E89447	T21219	T42216	S51863	T20434	T38712	T01369	D86428	E86428	T27408	S64757	F86428	F84919	T48059	T00961	T52080	T52081	T47840	T46645	T26883	T42751	T42711	T42728	T47796	
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ф	Query	79.3	45.3	36.2	35.4	33.2	32.6	32.3	28.7	27.6	25.7	24.1	23.8	23.5	23.3	23.2	22.9	22.6	22.5	21.7	21.7	21.6	21.5	21.5	21.4	21.3	21.3	21.2	20.9	
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MALROPCSADGSDPLWDWNVTWNTSNPDFTKCFQNTVLVWVPCFYLWACFPFYELXLSRH

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## ALIGNMENTS

RESULT 1  DVHUAR  multidrug resistance protein (cell line H69AR) - human  N,Alernate names: multidrug resistance-associated protein (MRP)  C,Species: Homo sapiens (man)  C,Date: 30-Jun-1993 #sequence revision 05-Dec-1998 #text_change 19-Jan-2001
C;Accession: A44231; A37495 R;Cole, S.P.C.; Phardwai, G; Gerlach, J.H.; Mackie, J.E.; Grant, C.E.; Almquist, K.C.;
Solution 200, 1000-10034, 1594 A;Title: Overexpression of a transporter gene in a multidrug-resistant human lung cancer A;Reference number: A44231; MUID:93088080; PMID:1360704
A;Accession: A44231 A;Status: nucleic acid sequence not shown A;Molecule type: mRNA A;Dolecule type: mRNA A;Dolecule type: mRNA
A; Crostances: Farth College N. ND: 91835658 A; Crostances: GB.L05628; ND: 91835658 A; Experimental source: small cell lung carcinoma cell line H69AR A;Note: sequence extracted from NCBI backbone (NCBIP:119851); this sequence has been cor
R;COle, S.P.C.; Deeley, R.G. Science 260, 879, 1993 A;Title: Multidrug resistance-associated protein: sequence correction. A;Reference number: A37495; MUID:93262415; PMID:8098549
A; Accession: A37495 A; Status: not compared with conceptual translation A; Molecule type: mRNA
A; KeBlaues: 1-50 <coz> A; Cross-references: GB:L05628; NID:g1835658 A; Onte: sequence extracted from NCBI backbone (NCBIP:131929) C:Genetics:</coz>
A,Gene: QDB:MRP A,Cross-references: GDB:136335; OMIM:158343 A;Map position: 16p13.1-16p13.1
C;Superfamily: human multidrug resistance protein cMOAT2; ATP-binding cassette homology C;Superfamily: human multidrug resistance, ATP, duplication; nucleotide binding; P-loop; transmr E;Keywords: artibiotic resistance, ATP, duplication; nucleotide binding cassette homology <abc1> F;661-844/Domain: ATP-binding cassette homology <abc1> F;788-792/Region: nucleotide-binding motif B F;1110-1503/Domain: ATP-binding cassette homology <abc2> F;1310-1503/Agegion: nucleotide-binding motif A (P-loop)</abc2></abc1></abc1>
F;1450-1454/Region: nucleotide-binding motil b Query Match Rest Local Similarity 99.9%; Pred. No. 0; Matches 1529; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Oy 12 Cy 13 Cy 13 Cy 13 Cy 13 Cy 13 Cy 13 Cy 14 Cy 14 Cy 15	RESULT 2 JE0336 canalicular C,Species: C,Date: 05- C,Accession R,Uchiumi, Biochem. Bi A,Title: 18 L. A,Reference A,Accession A,Accession A,Kesidues: A,Kesidues: A,Cross-C,Superfami C,Superfami C,Keywords: F;1306-1499	Query Ma Best Loc Matches	8 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6
121 TELIQLEERKGVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS 180 121 TFLIQLEERKGVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS 180 181 LLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWMITGLIVRGYRQPLEGSD 240 181 LLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWMITGLIVRGYRQPLEGSD 240 181 LLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWMITGLIVRGYRQPLEGSD 240 241 LWSLNKEDTSEQVVPULVRAWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVBAL 300 241 LWSLNKEDTSEQVVPULVRAWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVBAL 300 301 IVKSPQKEWNPSLFKVLYKTGPYFLMSFFFKAIHDLMMFSGBQILKLLIKFVNDTKAPD 360 301 IVKSPQKEWNPSLFKVLYKTGPYFLMSFFFKAIHDLMMFSGBQILKLLIKFVNDTKAPD 360 301 IVKSPQKEWNPSLFKVLYKTGPYFLMSFFFKAIHDLMMFSGBQILKLLIKFVNDTKAPD 360 301 IVKSPQKEWNPSLFKVLYKTGPYFLMSFFFKAIHDLMMFSGBQILKLLITNSARKSSTV 420 421 GBIVNLMSVDAQRFMDLATYINMIWSAPLQVILALYLLMLANLGPSVLAGVAVNYLMVPVN 480 421 GBIVNLMSVDAQRFMDLATYINMIWSAPLQVILALYLLMLANLGPSVLAGVAVNYLMVPVN 480	AVMAMKIKTYQVAHMKSKDNRIKLANBILNGIKVLKLYAMELAFKDKVLAIRQEELKVLK 54	AYSNADIYLPDDLGANDAHYGKHIFENYIGPKGMLKNKTRILVTHSMSYLPQVDVIIV 840  AVYSNADIYLPDDPLGAUDAHYGKHIFENYIGPKGMLKNKTRILVTHSMSYLPQVDVIIV 840  AVYSNADIYLPDDPLGAUDAHYGKHIFENYIGPKGMLKNKTRILVTHSMSYLPQVDVIIV 840  MSGGKISEMGSYQELLARDGAPAEFLRIYASTEQEQDAEENGVTGVSGPGKEAKQMENGM 900  LVTDSAGKQLORQLSSSSSYSGDISRHHNSTARLQEADAEENGVTGVSGPGKEAKQMENGM 900  LVTDSAGKQLORQLSSSSSYSGDISRHHNSTARLQEABAKKEETWKLMEADKAQTGQVKL 960  LVTDSAGKQLORQLSSSSSYSGDISRHHNSTARLQEABAKKEETWKLMEADKAQTGQVKL 960  SVYWDYMKAIGLFISFLSIFLFMCNHVSALASNYWLSLWTDDPIVNGTQEHTKVRLSCYG 102)	961 SVYWDYMKAIGLEISFLEHEMCNHVSALASNYWLSLWIDDPIVNGTQEHTKVRLSVYG 1020 1021 ALGISQGIAVFGYSMAVSIGGILASFCHVDLIHSILRSPMSFFERTPSGNLVNRFSKEL 1080 1021 ALGISQGIAVFGYSMAVSIGGILASRCLHVDLIHSILRSPMSFFERTPSGNLVNRFSKEL 1080 1021 ALGISQGIAVFGYSMAVSIGGILASRCLHVDLIHSILRSPMSFFERTPSGNLVNRFSKEL 1080 1021 DTVDSMIPEVIKMFMGSLFNVIGACIVILLATPIANIIIPPLGLIYFFVQRFYVASSRQL 1140 1081 DTVDSMIPEVIKMFMGSLFNVIGACIVILLATPIANIIIPPLGLIYFFVQRFYVASSRQL 1140 1141 KRLESVSRSPYYSHFNETLLGVSVIRAFEEQBRFIHQSDLKVDENQKAYYPSIVANRMLA 1200 1141 KRLESVSRSPYSHFNETLLGVSVIRAFEEQBRFIHQSDLKVDENQKAYYPSIVANRWLA 1200
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T.; Hinoshita, E.; Haga, S.; Nakamura, T.; Tanaka, T.; Toh, S.; Furukawa, M.; iophys. Res. Commun. 252, 103-110, 1998 solation of a novel human canalicular multispecific organic anion transporter,
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-Feb-1999 #sequence_revision 05-Feb-1999 #text_change 09-Jul-2004
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                                                                                                                                                                                                                                             261 VERLKEYSETEKEAPWQIQETRPPSSWPQVGRVEFRNYCLRYREDLDFVLRHINVTINGG
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	RESULT 3 S71841 multidrug resistance protein, canalicular - human C;Species: Homo sapiens (man) C;Species: Homo sapiens (man) C;Accession: S71841, S71840 R;Koenig, J.; Keppler, D.	submitted to the EMBL Data Library, August 1996 A; Reference number: \$71841 A; Accession: \$71841 A; MOLECULE type: mRNA	A; Keldudes: 11-1545 «KUD. Expose N. M. S. S. S. S. S. S. S. S. S. S. S. S. S.	A; Reference number: \$71839; MUID:96279006; PMID:8662992 A; Accession: \$71840 A; Accession: \$71840 A; Accession: \$71840 A; Accession: \$71840 A; Accession: \$71840	A; Notecture 1/15-1429, 'VP', 1412-1455,'E', 1457-1545 <bue> A; Cross-references: EMBL: X96395 C; Genetics:</bue>	A;Gene: -ODE:AGCL2; rudual; ABC; mkr2; cmkr; DJS A;Gene: -references: GDB:6089489; OMIM:601107 A;Map position: 10q24-10q24 C;Superfamily: human multidrug resistance protein cMOAT2; ATP-binding cassette homolog	C, Keywords: AFP; g1ycoprotein; nucleotide binding; F-loop; transmemorane protein F;664-837/Domain: AFP-binding cassette homology <abc1> F;671-678/Region: nucleotide-binding motif A (P-loop) F;1317-1510/Domain: AFP-binding cassette homology <abc2> F;1317-1510/Domain: AFP-binding cassette; A (P-loop)</abc2></abc1>	Chery Match  Query Match  Query Match  Red Local Similarity 47.1%; Pred. No. 6.8e-234,  Matches 746; Conservative 286; Mismatches 461; Indels 78; Gaps 20;	3 LRGFCSADGSDPLWDWNVTWNTSNPDFTKCFQNTVLVWVPCFYLWACFPFYFL S	DD Z DEKFCNSIFWNSSFLDSFEADLELCFEQIYLVWIFLGFLWLLAFWQLLHY 51  QY S6 YLSRHDRGYIQMTPLNKTKTALGFLLWIVCWADLFYSFWERSRGIFLAPVFLVSFTLGI 115  DD C2 VKSFPFFESCFFFKI.VIAK.OUVUGFIIII.II.II.RAIFIA.RAIV.TRACGATUDAVRYNDSI.V.I. 108	116 TILLATELIQLERRKGVQSSGIMLT-FWLVALVCALAILESKIMTALKEDAQVDLFRDIT	175 FYVYFSLLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQ 1.5.	235 PLEGSDLWSLNKEDTSEQVVPVLVKNWKKECAKTRKQPVKVVYSSKD	PULLEDVWEVDEEMRIKILDVSKFEIHMIKKELDVKRKALDKRYEKSSYQUSSGARLFGENNAV PAQPKESSKVDANEEVEALIVKSPQKEWNPSLFRVLYKTFGPYFLMSFFFRAIHDLAM 	340	
368 VLLFVTACLQTLVLHQYPHICFVSGMRIKTAVIGAVYRKALVITNSARKSSTVGBIVNLM 427	488 XTYQVAHMKSKDNRIKLMNEILNGIKVLKLYAWELAFKDKVLAIRQEELKVLKKSAYLSA 547 :	608 QASVSLKRLRIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTWARSDPTLNGITFS 667          :       :      :    :	668 IPEGALVAVVGOVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAWIQNDSLRENIL 727 	728 FGCQLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGOKQRVSLARAVYSNAD 787 	788 IYLFDDPLSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIVMSGGKIS 847  -	848 EMGSYQELLARDGAFAEFLRTYASTEQEQDAEBNGVTGVSGPGKEAKQMENGML 901                                     811       831 EMGPYFALLQRNGSFANFLCNYAPDEDQGHLEDSWTALEGAEDKEALLIEDTLSNHTDLT 890	902VTDSAGKQLORQLSSSSYSGDISRHHNSTAE-LQKAEAKKEFTWKLMEAD 951 	952 KAQTGQVKLSVYWDYMKAIGLFISFLSIFLFMCNHVSALASNYWLSLWTDDFIVNGTQEH 1011 	1012 TKVRLSVYGALGISQGIAVFGYSMAVSIGGILASRCLHVDLLHSILRSPMSFFERTPSGN 1071   :	1072 LVNRESKELDTVDSMIPEVIKMENGSLENVIGACIVILLATPIAAIIIPPLGLIYFFVQR 1131 ::        ::       ::	1132 FYVASSRQLKRLESVSRSPVYSHFNETLLGVSVIRAFEEQERFIHOSDLKVDENQKAYYP 1191     -	1192 SIVANRWLAVRLECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTTYLNWLVRMS 1251  ::    ::    ::	1252 SEMETNIVAVERLKEYSETEKEAPWQIQETAPPSSWPQVGRVVEFRNYCLRYREDLDFVLR 1311  :: :	1312 HINVTINGGEKVGIVGRTGAGKSSLTLGLPRINESAEGEIIIDGINIAKIGLHDLRFKIT 1371 	1372 IIPQDPVLFSGSLRWNLDPFSQYSDESVWTSLELAHLKDFVSALPDKLDHECAEGGENLS 1431	

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                                                                                    LNLGPSVLAGVAVMVLMVPVNAVMAMKTKTYQQVAHMKSKDNR1KLMNBILNG1KVLKLYA
                                              GHVAIKGSVAYVPQQAWIQNDSLRENILFGCQLEEPYYRSVIQACALLPDLEILPSGDRT
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IGAVYRKALVITNSARKSSTVGEIVNLMSVDAQRFMDLATYINMIWSAPLQVILALYLLW
                                                                                                             QTAFVSLALFNILRFPLNILPMVISSIVQASVSLKRLRIFLSHEELEPDSIERRPVKDGG
                                                                                                                                                             328 RNSLKTRNVNSLKEDEELVKGQKLIKKEFIETGKVKFSIYLEYLQAIGLFSIFFILLAFV
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Cipate: 271, 15091-15098, 1996
A;Title: cDNA cloning of the hepatocyte canalicular isoform of the multidrug resistance
A;Reference number: S71839; MulD:962-29006; PMID:862-992
A;Status: preliminary; nucleic acid sequence not shown
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F;1104-1132/Domain: transmembrane #status predicted <TM12>
F;1103-1228/Domain: transmembrane #status predicted <TM13>
F;1213-1206/Domain: ATP-binding case predicted <TM2>
F;1313-1506/Domain: ATP-binding case monlogy <ABC2>
F;1313-137/Region: nucleotide-binding motif A (P-loop)
F;6,1007,1010,1011/Binding site: carbohydrate (Asn) (covalent) #status p
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46.2%; Pred. No. 1.6e-228;
tive 301; Mismatches 471; Indels 69;
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	TNSARKSSTVG:               SNLARKQYTIG	AVMVLMVPVNA     ::    GVMVLLIPVNG	IRQEELKVLKK   ::     :  RKKELKNLLR	ILRFPLNILPM           LRFPLSMLPM						·Z	NYWLSLWT-DD	HVDLLHSILRS						
344	411	471	531	591	651	711	771	831	890	936	666	1049	1109	1169	1229	1289	1349	1409
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Title: Genome sequence of the nematode C. elegans: a platform for investigating biology. Reference number: A75000; MUID:99069613; PMID:9851916
Note: see websites genome.wustl.edu/gsc/C_elegans/ and www sanger.ac.uk/Projects/C_elegans/ shote: published errata appeared in Science 283, 35, 1999; Science 283, 2103, 1999; and Accession: E89447
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Cross-references: UNIPROT:Q20943; GB:chr_X; PIDN:AAA83299.1; PID:g1118071; GSPDB:GNOOO
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Superfamily: human multidrug resistance protein cMOAT2; ATP-binding cassette homology
                                     1412 RSFVSGLQLGLLSEVTEGGDNLSIGQRQLLCLGRAVLRKSKILVLDEATAAVDLETDSLI 1471
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                                                                                                                                                                                                                                                                          rotein F57C12.4 [imported] - Caenorhabditis elegans
;Species: Caenorhabditis elegans
;Date: 10-May-2001 #sequence_revision 10-May-2001 #text_change 09-Jul-2004
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                                                                                                                                                                                                                                                                                                                                                                      Consortium
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EMBL: Z81016; PIDN: CAB02667.1; GSPDB: GN00028; CESP: F2

from GB/EMBL/DDBJ

A,Accession: T21219 A,Status: preliminary; translated A,Molecule type: DNA number: Z19392

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          WIQNDSLRENILFGCQLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGQXQR
                                              VDVIIVMSGGKISEMGSYQELLARDGAFAEFLRTYASTEQEQDAEENGVTGVSGFG----
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T21219 T21219 Totein F21G4.2 - Caenorhabditis elegans Cypothetical protein F21G4.2 - Caenorhabditis elegans Cypothes Caenorhabditis elegans Cypothes 15-Oct-1999 #sequence\_revision 15-Oct-1999 #text\_change 09-Jul-2004 CyAccession: T21219, T24002 R.Mortimore, B.

A; Gene: CBSP:F21G4.2
A; Map position: X
A; Map position: X
A; Introns: 21/3; 122/3; 197/3; 276/1; 654/1; 911/1; 1067/1; 1472/2; 1537/2
C; Superfamily: human multidrug resistance protein cMOAT2; ATP-binding cassette homology 26 211 262 A;Residues: 1.1573 «WIL»
A;Cross-references: UNIPROT:093552; EMBL:Z81016; PIDN:CAB02667.1; GSPDB:GN0002
A;Experimental source: clone F21G4
B;Exreshaw, J.
Submitted to the EMBL Data Library, March 1995
A;Reference number: Z19828
A;Actession: T24002
A;Actaus: preliminary; translated from GB/EMBL/DDBJ
A;Residues: preliminary; translated from GB/EMBL/DDBJ
A;Residues: 1-1573 «WIZ»
A;Residues: 1-1573 «WIZ»
A;Residues: 1-1573 «WIZ»
A;Residues: clone R07Bl
A;Cross-references: EMBL:Z48621; PIDN:CAA88549.1; GSPDB:GN00028; CESP:F21G4.2
A;Experimental source: clone R07Bl 99 GIFLAPVF------LVSPTLLGITTLLATFLIQLERRKGVQSSGIMLTFWLVAL 146 151 147 VCALAILR---SKIMTALKEDAQVDLFRDITFYVYFSLLLIQLVLSCFSDRSPL-FSETI 202 271 311 PSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPDWQGYFYTVLL 370 610 430 AQREMDLATYINMIWSAPLQVILALYLLWINLGPSVLAGVAVMVLMVPVNAVMAMKTKTY 490 507 MINTASPFLVALSTFATFIXIDPKNVLTPEIAFVSLTLFNQLRSPMSQVABLITQTVQVV 627 667 KOSKKFEETAARRRIGSN--ASRTNRRRTSSNDTTPLLNDQSTDDYGSVPAGOSTOK--M 327 QVAHMKSKDNRIKLMNEILNGIKVLKLYAWELAFKDKVLAIRQEELKVLKKSAYLSAVGT 550 684 28 47 98 91 SIFTVAIYETLEQGEPYAAVDEVYELTLCLAMVVILALIVSCRNYGIVTSGGLFISMLVET 212 AARNPSPETTSSFINRITMWWFNSLCSLGVKKPLEVSDLYSLNEADTSNLLVPKWYNLMD HDPNPCPESSASFLSRITFWHITGLIVRGYRQPLEGSDLWSLNKEDTSEQVVPVLVKNWK KECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVBAL------IVKSPQKEWN 3 LRG---FCSADGSDPLWDWNVTWNTSN-PDFTKCFQNTVLVWVPCFYLWACFPFYFLYLS VDRFQQITPQTMQYWSNPFQIGLALFLLFQQLGVSVFSGVAVWVLFPINFVITMIIRKW RHDRGYIQMTPLNKTKTALGFLLWIVCWADLFYSF-----WER------SR FVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSSTVGEIVNLMSVD FTWVCTPFLVALCTFAVYVT1DENNILDAQTAFVSLALFNILRFPLNILPMVISSIVQAS VSLKRLRIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTW--ARSDP-PTLNGITFS Indels 134; Length 1573; Query Match
32.6%; Score 3225; DB 2;
Best Local Similarity 42.4%; Pred. No. 2.3e-209;
Matches 685; Conservative 305; Mismatches 490; 59 48 92 203 263 272 371 431 448 508 551 611 628 491 셤 ò g ò ð 셤 셤 셤 q ò ે à 셤 à 8 셤 8 B ઠ g ò ď 셤 ठे

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T42216
multidrug resistance-associated protein homolog MLP-1 - rat
C;Species: Rattus norvegicus (Norway rat)
C;Species: Rattus norvegicus (Norway rat)
C;Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 09,Jul-2004
C;Accession: T42216
R;Hirohashi, T.; Suzuki, H.; Ito, K.; Ogawa, K.; Kume, K.; Shimizu, T.; Sugiyama, Y. Mol. Pharmacol. 53, 1068-1075, 1998
A;Title: Heppatic expression of multidrug resistance-associated protein-like proteins 1A;Reference number: Z22081; MUID:98279126; PMID:9614210
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homology PIDN: BAA28954.1; PID: cassette 435 479 555 539 615 838 886 696 ::: | ||: ||:|| || ||:||-|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:||| AIWRVFRSTFILGTLSLVISDAFRFAVPKLLSLFLBFWGDLBSSAWTGWLLAVLWFLSAC 359 419 495 599 675 735 718 795 778 855 909 ALGFILMIVCWADLFYSFWERSRGIFLAPVFLVSPTLLGITTLLATFLIQLERRKGVOSS 135 195 196 255 315 299 79 |:::| |:| |:| | GLLFGYW---LLCCLVPAIDTVQQASAGSFRQEPLHHLATYLCLSLVVAELVLSCLVDQP LQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSSTVGEIVNLMSVDAQRFM : ||||| |||: :|:| :||: ||| || || STFLVALVVFAVHTLVAEDNAMDAEKAFVTLTVLSILNKAQAFLPFSVHCLVQARVSFDR LORQLSSSSSSSGDISRHHNSTAELOKAEAKKEETWKLMEADKAQTGQVKLSVYWDYMKA GIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFSLLLIQLVLSCFSDRS DLATYINMIWSAPLOVILALYLLWLNIGPSVLAGVAVMVLMVPVNAVMAMKTKTYQVAHM KSKDNRIKLIMNEILNGIKVLKLYAWELAFKDKVLAIRQEELKVLKKSAYLSAVGTFTWVC :|:||||| : :|: |||| |:|: ||||||||: AALDAHVSQEVFKQVIGFSGLLQGTTRILVTHTHVLPQADQILVLANGTIAEMGSYQDL LARDGAFAEFLRTYASTEQEQDABENGVT----GVSGPGKEAKOMENGMLVTDSAGKQ LHRNGALVGLLDGARQPAGEGEGEAHAAATSDDLGGFSGGGTPTRRPE------PLESETIHDDNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSDLWSLNKEDTSEQVVP VLVKNWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVEALIVKSPQKEMNPSLFK VLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPDWQGYFYTVLLFVTAC TPFLVALCTFAVYVTIDENNILDAQTAFVSLALFNILRFPLNILPMVISSIVQASVSLKR LRIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTWARSDPPTLNGITFSIPEGALVA YXRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGQKQRVSLARAVXSNADIYLFDDPL SAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIVMSGGKISEMGSYQEL WNTSNPD-----FTKCFQNTVLVWVPCFYLWACFPFYFLYLSRHDRGYIQMTPLNKTKT A;Molecule type: mRNA A;Residues: 1-1502 «HIR» A;Cross-references: UNIPROT:O88269; EMBL:AB010466; NID:g3242457; PIDN: A;Experimental source: strain Sprague-Dawley; liver C;Superfamily: human multidrug resistance protein cMOAT2; ATP-binding Length 1502 Indels 5.5; DB 2; 2.1e-207; ch 32.3%; Score 3195.5; 11 Similarity 43.1%; Pred. No. 2.1e-655; Conservative 290; Mismatches Query Match Best Local S: Matches 655 92 80 140 257 316 300 736 22 20 136 196 197 256 360 436 420 496 480 256 540 919 909 949 629 719 779 839 910 196 856 g ઠે g & Q ठे ያ ያ 셤 8 6 8 6 6 B 6 중 음 8 & 8 B 셤 ć 원 장 g ò 유 ò ò

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                                                                                                                    F;446-467/Domain: transmembrane #status predicted <TM5-
F;534-555/Domain: transmembrane #status predicted <TM5-
F;534-555/Domain: transmembrane #status predicted <TM5-
F;538-580/Domain: transmembrane #status predicted <TM6-
F;663-670/Region: nucleotide-binding motif A (P-loop)
F;663-670/Region: nucleotide-binding motif A (P-loop)
F;955-1016/Domain: transmembrane #status predicted <TM3-
F;1068-1088/Domain: transmembrane #status predicted <TM8-
F;1052-1113/Domain: transmembrane #status predicted <TM10-
F;1208-1299/Domain: transmembrane #status predicted <TM10-
F;1208-1299/Domain: ATP-binding cassette homology <ABC2-
F;1289-1483/Domain: ATP-binding cassette homology <ABC2-
F;1306-1313/Region: nucleotide-binding motif A (P-loop)
                  transmembrane
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F;345-366/Domain:
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S1863
Cadmium resistance protein YCF1 - yeast (Saccharomyces cerevisiae)
NyAlternate names: protein YD9302.11c; protein YDR135c
CiSpecies: Saccharomyces cerevisiae
CiSpecies: Saccharomyces cerevisiae
CiPate: 10-Sep-1999 #sequence revision 10-Sep-1999 #text_change 09-Jul-2004
CiAccession: S21663; A53322; $50233
R.Oliver, K.; Harris, Data Library, February 1995
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C;Species: Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Species: L3-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 09-Jul-2004
C;Accession: T20434
R;McMurray, A.
Bubmitted to the EMBL Data Library, November 1995
A;Accession: T20434
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A,Map position: X
A,Introns: 73/3; 113/3; 176/1; 216/1; 258/2; 384/3; 470/3; 549/1; 644/3; 757/3; 764/2;
C,Superfamily: human multidrug resistance protein cMOAT2; ATP-binding cassette homology
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                                                                                                                                                                   Gaps
                                                                                                                                                                 88;
                                                                                                                           Length 1398;
                                                                                                                       tch 27.6%; Score 2732; DB 2; al Similarity 41.1%; Pred. No. 4.5e-176; 591; Conservative 287; Mismatches 472;
                                                                                                                         Query Match
Best Local S:
Matches 591
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404 351 464 411 524 471

us-10-665-283-1.rpr

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HVDLLHSILRSPMSFFERTPSGNLVNRFSKELDTVDSMIPEVIKMFMGSLFNVIGACIVI 1108
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                                                                                                                                                       TEIGEKGVNLSGGQKQRVSLARAVYSNADIYLFDDPLSAVDAHVGKHIFENVIGPKGMLK 818
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      TFYVYFSLLLIQLVLS-----CFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLI
                                                                   VRGYROPLEGSDLWSLNKEDTSEQVVPVLVKNWKKECAKTRKOPVKVVYSSKDPAQPKES
                                                                                                                                                                                             LIKEVNDTKA----PDWQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVY
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NiAlternate names: metal resistance protein homolog
C;Species: Schizosaccharomyces pombe
C;Species: Schizosaccharomyces pombe
C;Bate: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 09-Jul-2004
C;Accession: 138712, 1734344
R;Murphy, L.; Harris, D.; Barrell, B.G.; Rajandream, M.A.; Walsh, S.V.
A;Reference number: 221807
A;Accession: T38712
A;Wolecule type: DNA
A;Residues: 1-1408 AKUR.
A;Residues: 1-1408 AKUR.
A;Residues: 1-1408 AKUR.
A;Residues: 1-1408 AKUR.
A;Residues: 1-1408 AKUR.
A;Residues: 1-1408 AKUR.
A;Residues: 1-1408 AKUR.
A;Residues: 23-369, 1997
A;Title: Identification of open reading frames in Schizosaccharomyces pombe cDNAs.
B;Yoshioka, S; Kato, K.; Nakai, K.; Okayama, H.; Nojima, H.
DNA Res: 4, 363-369, 1997
A;Title: Identification of open reading frames in Schizosaccharomyces pombe cDNAs.
A;Reference number: 217323; MUID:98162722; PMID:9501991
A;Totle: Identification of open reading frames in Schizosaccharomyces pombe cDNAs.
A;Residues: 1043-1206, L', 1288-1300, YY, 1302, 'H', 1304-1310, 'H', 1312-1466, 'V', 1468-1478
A;Cross-references: EMBL:D89231; NID:991749669; PIDN:BAA13892.1; PID:91749670
C;Generics: SPDB:SPAC3F10.11C
A;Moperics: Strain PR745
C;Generics: Strain PR745
C;Keywords: ATP: transmembrane protein
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                                                                                                                                                                                                                                                                                                                                  CIITSHIGLHDLREKLTIIPQENVLFANTLRFNIDPKGQFTDQQLWLALENSNLKAHVEL 1279
                                                                                                                                                                                                                                                       FRNYCLRYREDLDFVLRHINVTINGGEKVGIVGRTGAGKSSLTLGLFRINESAEGEIIID 1354
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|TYFLALFLHVVEQPTLRIPMASLIMFWELFKFLASALVLLLRPNYTMF---PMLNVVPSI 152
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                                                                                                                           HQSDLKVDENQKAYYPSIVANRWLAVRLECVGNCIVLFAALFAVISRHS-LSAGLVGLSV
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ITCLITRGYROPLEGSDLMSLINKEDTSEQUVPULVYGWKCEGCKTRKOPVKVVYSSKOPE LINPLATLGSKRPLIESCOWHLITYGSPETHANSPOKSMDEELSK OPKESSKUDANEEVBALITYGSPOKENPELFKVILYKPEPYFLINEPFEKALHDLAWFSOP  OLIKALIKKVUDTKABPOMOSTPYVLLEVTRALOGILYLGSPEKALHDLAWFSOP  OLIKALIKKVUDTKABPOMOSTPYVLLEVTRALOGILYLGSPEKALHDLAWFSOP  OLIKALIKKSM-OLNEPAMIGYIYAISIFVGVLCACAGORGWKGYRLASALIAAV  YRALVITISSHKSSY-ORITYLAISIFVGVLCACAGORGWGGYRLASALIAAV  YRALVITISSHKSSY-ORITYLAISIFVGVLCACAGORGWGGYRLASALIAAA  VRALVITISSHKSKY-ORITYLAISIFVGVLCACAGORGWGGYRLASALIAAA  VRALVITISSHKKKKY-ORITYLAISIFVGVLCACAGORGWGGARFRANGORGWGGAGAGAA  PRIJALITRGBEKAVARCOTGYITYLAISIFVGALTAGAGORGWGGAGAFRITAAAGORGWGGAGAA  PRIJALITRGBEKAVARCOTGYITYLAISIFVGALTAGAGORGWGGAGAFRITAAAGORGWGGAGAAAAAGORGWGGAGAAAAAAAGAAAAAAAAAA	1228 GLVGLSVSYSLQVITYLNWLVRMSSEMETNIVAVERLKEYSETEKEAPWQIQETAPPSSW 1287
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DD 1068 DEISSEPYNORGERIANGESTIRATKATERMOINGERSUNNIEFTLANGANDREPEL 1147  OY 1204 ECVONCTUZPALPALYISENSISSANDHIEFTLANGANDSEBERTH 1258  D1168 TIGGALHIGLASPANDENTEL 11	Qy 184 IQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWW 223 :

FFRAIHDLAMPESGPQILKLLIKFVNDTKAPDWQGYFYTVLLFVTACLQTLVLHQYFHICF	147 ILAGOL-LITHARAFISTERFALKEFURNITHENISAYWARNAYOLDSARALLAN ON STERREYDOGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGG
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A;Residues: 1-1559 <MIO>
A;Cross-references: UNIPROT:P14772; EMBL:Z73120; NID:g1360184; PIDN:CAA97460.1; PID:g136
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A;Residues: 1-1559 <GOF>
A;Cross-references: EMBL:Z73120; NID:g1360184; PIDN:CAA97460.1; PID:g1360185; GSPDB:GN00
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N;Alternate names: hypothetical protein A255; hypothetical protein L1313
C;Species: Saccharomyces cerevisiae
C;Date: 10-Sep-1999 #sequence revision 10-Sep-1999 #text_change 09-Jul-2004
C;Accession: S64757; S64763; FS0041; S69391; S70560
R;Miosga, T.; Zimmermann, F.K.
submitted to the Protein Sequence Database, May 1996
A;Reference number: S64743
                                                                                                                                                                                                                                                                 MFMGSLFNVIGACIVILLATPIAAIIIPPLGLIYFFVQRFYVASSRQLKRLESVSRSPVY
                                                                                                                                                                                                                                                                                                                                                                                                       STIAESIHGASSIRAFDKTERTTTALSTNVDKFAQCRYLSHMSNRWLATRLELLGNTCVL
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R;BOy-Marcotte, E.; Damak, F.; Camonis, J.; Garreau, H.; Jacquet, M.
Gene 77, 21-30, 199
A;Ttle: The C-terminal part of a gene partially homologous to CDC25
A;Reference number: PS0041; MUID:89306677; PMID:2545538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Experimental source: strain S288C
R;Goffeau, A.; Purnelle, B.
submitted to the Protein Sequence Database, May 1996
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A;Accession: S64763
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A;Molecule type: DNA
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CiAccesaion: T27408
Ribarlow, K.
Submitted to the EMBL Data Library, November 1998
Air Reference number: Z20361
Air Reference number: Z20361
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;Accession: T27408
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23.3%; Score 2312; DB 2;
Best Local Similarity 42.5%; Pred. No. 8.7e-148;
Matches 491; Conservative 228; Mismatches 381;
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                               VYRKALVITNSARKSSTVGEIVNLMSVDA---QRFMDLATYINMIWSAPLQVILALYLLW
                                                                                                   LNLGPSVLAGVAVMVLMVPVNAVMAMKTKTYQVAHMKSKDNRIKLMNEILNGIKVLKLYA
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A,Nete: the authors translated the codon CAG for residue 248 as His A,Nete: the authors translated the codon CAG for residue 248 as His A,Nete: the authors translated the Coffeau.

B,Purnelle, B.; Goffeau.

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Db 1363 DGIDISDIGLFDLRSHLAIIPQDAQAFEGTVKTNLDPFNRYSEDELKRAVEQAHLKPHLE 1422

Qy 1414 AL-------PDKLDHECAEGGENLSVQQRQLVCLARALLRKTKILVLDEA 1456

Db 1423 KMLHSKPRGDDSNEEDGNVNDILDVKINENGSNLSVGQRQLLCLARALLNRSKILVLDEA 1482

Qy 1457 TAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVLDKGEIQEYGAPSDLLQ 1516

Db 1483 TASVDMETDKIIQDTIRREFKDRTILTIAHRLDTVLDSGBKIIVLDGGSVREFDSFSKLLS 1542

Qy 1517 QR-GLFYSMAKDAG 1529

Db 1543 DKTSIFYSLCEKGG 1556
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Search completed: March 18, 2005, 11:05:27 Job time : 62.2651 secs

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GenCore version 5.1.6
(c) 1993 - 2005 Compugen Ltd.
                  Copyright
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OM protein - protein search, using sw model

March 18, 2005, 10:57:20 ; Search time 203.942 Seconds Run on:

(without alignments)
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Perfect score: Title:

US-10-665-283-1 9903 1 MALRGFCSADGSDPLWDWNV......RSVAVAKAKPKFSISPDSLS 1927 Sequence:

BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

1612378 segs, 512079187 residues Searched:

1612378 Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

1: uniprot\_sprot:\*
2: uniprot\_trembl:\* UniProt 03:\* Database

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

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32	3.4	36	9 6	6	40	41	42	43	44	45

## ALIGNMENTS

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[5]
SEQUENCE OF 1131-1531 FROM N.A.
MEDLINE=99425270; PubMed=10493829; DOI=10.1006/geno.1999.5927;
Loftus B.J., Kim U.-J., Sneddon V.P., Kalush F., Brandon R., Fuhrmann J., Mason T., Crosby M.L., Barnstead M., Cronin L., Deslattes B.A., Ray A., Coo Y., V., Venter J.C., Adams M.D.;
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P33527; 0.14819; P78419;
0.1-FEB-1994 (Rel. 28, Created)
0.1-NOV-1997 (Rel. 35, Last sequence update)
25-CCT-2004 (Rel. 45, Last annotation update)
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Name-ABCC1; Synonyms-MRP1;
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Almquist K.C., Stewart A.J., Kurz E.U., Duncan A.M.V., Deeley R.G.;
"Overexpression of a transporter gene in a multidrug-resistant human lung cancer cell line.";
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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MEDLINE=33262415; PubMed=8098549;
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DOI=10.1002/1098-1004(2001)17:1<74::AID-HUMU14>3.0.CO;2-F;
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                                                                                                                              J. Biol. Chem. 272:23623-23630(1997).
[7]
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                  lochemistry 37:2305-2313(1998)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VARIANTS MET-117 AND LEU-1512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VARIANTS GLN-633 AND VAL-671
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                                                                                                                                                                                                                                   Kast C., Gros P.;
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SIMILARITY: Belongs to the ABC transporter family, MRP subfamily. DATABASE: NAME-Atlas Genet. Cytogenet. Oncol. Haematol.; WWW-"http://www.infobiogen.fr/services/chromcancer/Genes/MRPID106.html".
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
          MEDLINE=21163848; PubMed=11266082;
Ito S., Ieiri I., Tanabe M., Suzuki A., Higuchi S., Otsubo K.;
Ito S., Ieiri I., Tanabe M., Suzuki A., Higuchi S., Otsubo K.;
"Polymorphism of the ABC transporter genes, MDRI, MRPI and MRP2/cMOAT,
in healthy Japanese subjects.";
Pharmacogenetics 11:175-184(2001).
-!- FUNCTION: May participate directly in the active transport of
drugs into subcellular organelles or influence drug distribution
                                                                                                                                                                                                                                                                                                                                                                                                          ISOId=P33527-8; Sequence=VSP 000037, VSP 000038, VSP 000039; TISSUE SPECIFICITY: Lung, testis and peripheral blood mononuclear
                                                                                                                                                                   Experimental
                                                                                                                                                                                                                                                                                                         Name=Delexon-17-18;
IsoId=P33527-5; Sequence=VSP_000037, VSP_000038;
Name=Delexon-17-30;
                                                                                                                                                                                                                                                                                                                                                     IsoId=P33527-6; Sequence=VSP_000037, VSP_000039;
                                                                                                                                                                                                                                                                                                                                                                              IsoId=P33527-7; Sequence=VSP_000038, VSP_000039;
                                                                                                            indirectly.
-!- SUBCELLULAR LOCATION: Integral membrane protein.
-!- ALTERNATIVE PRODUCTS:
                                                                                                                                                 Event-Alternative splicing, Named isoforms=8, Comment-Additional isoforms seem to exist. Exp. confirmation may be lacking for some isoforms;
VARIANTS SER-43; ILE-73; GLN-723 AND GLN-1058.
                                                                                                                                                                                                                                    IsoId=P33527-2; Sequence=VSP_000037;
                                                                                                                                                                                                                                               Name=Delexon-18;
IsoId=P33527-3; Sequence=VSP_000038;
                                                                                                                                                                                                                                                                                               IsoId=P33527-4; Sequence=VSP_000039;
                                                                                                                                                                                                           IsoId=P33527-1; Sequence=Displayed;
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EMBL; AF022850; AAB83983.1;
                                                                                                                                                                                                                                                                                                                                                                                           Name=Delexon-17-18-30;
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RX MEDLINE=98008927; PubMed=9344662; DOI=10.1006/geno.1997.4950; RX MEDLINE=98008927; PubMed=9344662; DOI=10.1006/geno.1997.4950; RA Grant C.E., Kurz E.U., Cole S.P., Decley R.G.; Grant C.E., Kurz E.U., Cole S.P., Decley R.G.; RT "Analysis of the intron-exon organization of the human multidrug-resistance protein gene (MRP) and alternative splicing of its mRNA."; Genomics 45:368-378 (1997).

RL - SIMILARITY: Belongs to the ABC transporter family.

EMBL; AF022829; AAB83979.1; JOINED.

DR EMBL; AF022829; AAB83979.1; JOINED.

DR EMBL; AF022831; AAB83979.1; JOINED.

DR EMBL; AF022831; AAB83979.1; JOINED.

DR EMBL; AF022834; AAB83979.1; JOINED.

DR EMBL; AF022835; AAB83979.1; JOINED.

DR EMBL; AF022835; AAB83979.1; JOINED.

DR EMBL; AF022835; AAB83979.1; JOINED.

DR EMBL; AF022836; AAB83979.1; JOINED.

DR EMBL; AF022836; AAB83979.1; JOINED.

DR EMBL; AF022836; AAB83979.1; JOINED.

DR EMBL; AF022836; AAB83979.1; JOINED.

DR EMBL; AF022836; AAB83979.1; JOINED.
SVYWDYMKAIGLFISFLSIFLFMCNHVSALASNYWLSLWTDDPIVNGTQEHTKVRLSVYG 1020
                                                                                                                                                                    VERLKEYSETEKEAPMOIQETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRHINVTINGG
                       KRLESVSRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRWLA
                                                                                                                                     KRLESVSRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRWLA
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Bukaryota; Metazoa; Chordata;
Mammalia; Butheria; Primates;
NCBI_TAXID=9606;
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Best Local Similarity 100.0%; Pred. No. 0;
Matches 1531; Conservative 0; Mismatches
EMBL; AF022851; AAB83983.1; JOINED EMBL; U91318; AAC15784.1; -.
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                                 LATY INMIWSAPLQVI LALYLLWLNLGPSVLAGVAVMVLMVPVNAVMAMKTKTYQVAHMK
                                                                                                   SKDNRIKLMNEILNGIKVLKLYAWELAFKDKVLAIRQEELKVLKKSAYLSAVGTFTWVCT
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AA; 169852 MW; DC85592817C439FE CRC64;
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Produi, PD000006; ABA; 2.

SMART; SM00382; AAA; 7.

TIGREAMS; TIGR00957; MRP assoc_pro; 1.

PROSITE; PS50929; ABC TMIF; 2.

PROSITE; PS508231; ABC TRANSPORTER 1; 2.

PROSITE; PS0001211; ABC TRANSPORTER 2; 2.

PROSITE; PS00107; PROTEIN_KINASE_ATP; UNRNOWN_1.
                                                                                                                                                                   EMBL; AF0220850; AAB83979.1; JOINED.
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EMBL; AF0220851; AAB83979.1; JOINED.
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HSSP; PO8716; JAMO.
GO; GO:0016021; C:integral to membrane; IEA.
GO; GO:0016021; F:ATP binding; IEA.
GO; GO:000266; F:ATP binding; IEA.
GO; GO:000266; F:ATP binding; IEA.
GO; GO:000266; F:ATP binding; IEA.
GO; GO:000661; P:ATP binding; IEA.
GO; GO:0006810; P:Tansporter activity; IEA.
GO; GO:0006810; P:Tansporter activity; IEA.
INTERPO: IPR001140; P:Tansporter.
INTERPO: IPR001140; ABC_TWEATSPORTER.
INTERPO: IPR001140; ABC_TRANSPORTER.
INTERPO: IPR001140; ABC_TRANSPORTER.
INTERPO: IPR001199; Prof_Kinase.
PEAM; PF000664; ABC_ERAN; 2.
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                                            IVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPD
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                                                                                                                                                                                                                                                                                                                                            MEDLINE=22544876; PubMed=12657726;
Godinot N., Iversen P.W., Tabas L., Xia X., Williams D.C.,
Dantzig A.H., Perry W.L.;
"Cloning and functional characterization of the multidrug resistance-
associated protein (RRPL)ABCC1) from the cynomolgus monkey.";
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Perry W.L. III, Godinot N.;
Submitted (ANG-2002) to the EMBL/GenBank/DDBJ databases.
-!- SIMILARITY: Belongs to the ABC transporter family.
EMBL; AY146673; AAN65349.1; --
HSSP; POB716; 1MTO.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1531 AA; 171658 MW; 1AE788EFDF9EF459 CRC64;
                                                                                                                                                                       Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CO; GO: 0005224; F:ATP binding; IEA.
GO; GO: 0005224; F:ATP binding; IEA.
GO; GO: 0005224; F:ATP binding; IEA.
GO; GO: 0005265; F:ATP binding; IEA.
GO; GO: 000515; F:transporter activity; IEA.
GO; GO: 0005215; F:transporter activity; IEA.
GO; GO: 0005215; F:transporter; IEA.
InterPro; IPR001529; AAA ATPASS.
InterPro; IPR001527; ABC_membrane_1.
InterPro; IPR001439; ABC_membrane_1.
InterPro; IPR001439; ABC_transporter.
InterPro; IPR005292; MRP_assoc.
InterPro; IPR005292; MRP_assoc.
InterPro; IPR0005929; MRP_assoc.
InterPro; IPR000695; ABC_transporter; 2.
FroDom; PD000006; ABC_tran; 2.
FroDom; PD000006; ABC_transporter; 2.
FROJER; PS00192; AAA; 2.
ITGRRAMS; TIGR00957; MRP_assoc_pro; 1.
FROSITE; PS0011; ABC_TRANSPORTER 1; 2.
FROSITE; PS0011; ABC_TRANSPORTER 2; 2.
FROSITE; PS00107; PROTEIN_KINASE_ATP; UNKNOWN_1.
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Pred. No. 0;
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01-JUN-2003 (TrEMBLrel. 24, Last seg
01-MAR-2004 (TrEMBLrel. 26, Last ann
                                                                                                                                                                                                     Multidrug resistance protein 1B.
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Best Local Similarity 97.5%;
Matches 1493; Conservative 20
             ORGLEYSMAKDAGLV
                             PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
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SEQUENCE
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                                                                                                                                                       EKVGIVGRICAGKSSLILGLFRINESAEGEIIIDGINIAKIGLHDLRFKITIIPQDPVLF
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TISSUB=Kidney;

MEDLINE=22546; PubMed=12657726;

Godinot N., Iversen P.W., Tabas L., Xia X., Williams D.C.,

Dantzig A.H., Perry W.L.;

"Cloning and functional characterization of the multidrug resistance-
associated protein (WRPJABCG1) from the cynomolgus monkey.";

Mol. Cancer Ther. 2:307-316(2003).
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Bukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
Cercopithecinae; Macaca.
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TISSUB-Kidney;
Perry W.L. III, Godinot N.;
Submitted (AUG-2002) to the EMBL/GenBank/DDBJ databases.
-! SIMILARITY: Belongs to the ABC transporter family.
EMBL; AY146672; AAN65348.1;
-- HSSP; P08716; 1MT0.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-07N-2003 (TrEMBLrel. 24, Created)
01-07N-2003 (TrEMBLrel. 24, Last sequence update)
01-MR-2004 (TrEMBLrel. 26, Last annotation update)
Multidary resistance protein 1A.
Name-MRP1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL. AX146672; AAN65348.1; -- S.FALLALIYI: BAD10099 to the ABC transporter ransport ax146672; AAN65348.1; -- HSSP; PO8716; IMTO.

GO; GO:1016021; C:integral to membrane; IEA.

GO; GO:1005524; F:ATP binding; IEA.

GO; GO:0005265; F:ATP binding; IEA.

GO; GO:0005215; F:Transporter activity; coupled to transport properties activity; IEA.

GO; GO:0005215; F:transporter activity; IEA.

InterPro; IPR001593; AAA_ATPase.

InterPro; IPR0011527; ABC_membrane 1.

InterPro; IPR001140; ABC_TM transpt.

InterPro; IPR00140; ABC_TM transpt.

InterPro; IPR00179; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; Pro; IPR00719; PR00719; Pro; IPR00719; Pro; IPR00719; PR00719;                                                                                                                                                                                                                                                                                                                                                                                                                                                         1531 AA
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SMART; SM00382; AAA; 2.
TIGRPAMS; TIGR00957; MRP assoc_pro; 1.
PROSITE; PS50929; ABC TMIF; 2.
PROSITE; PS50893; ABC TRANSPORTER 1; 2.
PROSITE; PS50893; ABC TRANSPORTER 2; 2.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      841 MSGGKISEMGSYQELLARDGAFAEFLRTYASAEQEQDFEDNGVTGVSGPGKEAKQMENGM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LVTDSAGKQLQRQLSSSSSYSGDVSRQHNSTAELQKDGAKKEETWKLMEADKAQTGQVKL
                                                                                                                                                           1 MALRGFCSADGSDPLWDWNVTWNTSNPDFTKCFQNTVLVWVPCFYLWACFPFYFLYLSRH
                                                                                                                                                                                                                                                                                                                       TFLIQLERRKGVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LWSLNKEDTSEQVVPVLVKNWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVEAL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          541 KSAYLSAVGTFTWVCTPFLVALCTFAVYVTIDENNILDAQTAFVSLALFNILRFPLNILP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 721 SLQENILFGCQLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGQKQRVSLAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               901 LVTDSAGKQLQRQLSSSSSYSGDISRHHNSTAELQKAEAKKEETWKLMEADKAQTGQVKL
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                                                                                                                       Gaps
                                                                                                                     ;
                                                                               Length 1531;
                                                                                                                     Indels
                ATP-binding. - - SEQUENCE 1531 AA; 171700 MW; 168712B8CC2D2B89 CRC64;
                                                                                                                     19;
                                                                               DB 2;
PS00107; PROTEIN_KINASE_ATP; UNKNOWN_1
                                                                           77.6%; Score 7689; D: 97.6%; Pred. No. 0; ive 18; Mismatches
                                                                                                Best Local Similarity 97.08
Matches 1494; Conservative
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                                                                                                                                                                                                                                                                                                                                                         transmembrane
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163830 MW; 6A016ASA6E7AA95C CRC64;
                                                                                                                                                                                                                                                                                                              GO; GO: 0016021; Cintegral to membrane; IEA.
GO; GO: 0016021; Cintegral to membrane; IEA.
GO; GO: 000524; F: ATP binding; IEA.
GO; GO: 0005265; F: ATP age activity; coupled to trans
GO; GO: 0005215; F: transporter activity; IEA.
GO; GO: 0005215; F: transporter activity; IEA.
GO; GO: 0005215; F: transporter activity; IEA.
GO; GO: 0005215; F: transporter; IEA.
GO; GO: 0005215; F: transporter; IEA.
InterPro; IPR001393; ABC_TMENDED.
InterPro; IPR001393; ABC_TMENDED.
InterPro; IPR001393; ABC_TMENDED.
InterPro; IPR001019; Frof kinase.
FEAM; FF00664; ABC_Membrane; 2.
FEAM; FF00664; ABC_transporter; 1.
R FRODOM; PD000005; ABC_transporter; 1.
R FRODOM; PD001092; AAS_C TRANSPORTER 1; UNKNOWN_1.
R FROSITE; PS00121; ABC_TMANSPORTER 1; UNKNOWN_1.
R RNOSITE; PS00101; PROTEIN_XINASE_ATP; UNKNOWN_1.
ATP-binding.
I SEQÜENCE 1459 AA; 163830 MW; 6A016A5A6E7AA95C C
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Best Local Similarity 96.3%;
Matches 1459; Conservative (
                                                                                                                        AAB83980.1;
AAB83980.1;
AAB83980.1;
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AF022852; AAB83980.1;
AF022853; AAB83980.1;
                                                     AAB83980.1;
AAB83980.1;
                                                                                       AAB83980.1;
AAB83980.1;
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AAB83980.1;
                                                                                                                                                                        EMBL, AF022847; AABB
EMBL, AF022848; AABB
EMBL, AF022849; AABB
EMBL, AF022851, AABB
EMBL, AF022851; AABB
EMBL, AF022851; AABB
EMBL, AF022853; AABB
                                                 EMBL, AF022839; AF022841; AE022841; AF022842; AEMBL, AF022843; AEMBL, AF022844; AEMBL, AF022846; AEMBL; AF022846; AEMBL; AF022846; AEMBL;
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1200
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MEDINE—98008927; PubMed=9344662; DOI=10.1006/geno.1997.4950;
A Grant C.E., Karz E.U., Cole S.P., Deeley K.G.;
Analysis of the intron-exon organization of the human multidrug-
resistance protein gene (MRP) and alternative splicing of its mRNA.";
Genomics 45:368-378(1997).
Genomics 45:368-378(1997).
EMBL; AF022824; AAB83980.1; JOINED.
EMBL; AF022825; AAB83980.1; JOINED.
EMBL; AF022829; AAB83980.1; JOINED.
EMBL; AF022829; AAB83980.1; JOINED.
EMBL; AF022831; AAB83980.1; JOINED.
EMBL; AF022831; AAB83980.1; JOINED.
EMBL; AF022831; AAB83980.1; JOINED.
EMBL; AF022831; AAB83980.1; JOINED.
EMBL; AF022831; AAB83980.1; JOINED.
EMBL; AF022831; AAB83980.1; JOINED.
EMBL; AF022833; AAB83980.1; JOINED.
EMBL; AF022833; AAB83980.1; JOINED.
EMBL; AF022833; AAB83980.1; JOINED.
EMBL; AF022833; AAB83980.1; JOINED.
                                                                                                                                            DTVDSMIPEVIKWFMGSLFNVIGACIVILLATPIAAIIIPPLGLIYFFVQRFYVASSRQL
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                                                      ALGISQGIAVFGYSMAVSIGGILASRCLHVDLLHSILRSPMSFFERTPSGNLVNRFSKEL
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
Multidrug resistance protein (Fragment).
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Homo sapiens (Human)
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REALINE—SECURICE FROW N.A.

MEDLINE—SPOROBS27; PubMed=9344662; DOJ=10.1006/geno.1997.4950;

RIT Grant C.E., Kurz E.U., Cole S.P., Deeley R.G.;

Treasletance protein gene (WRP) and alternative splicing of its mkNA.";

Treasletance protein gene (WRP) and alternative splicing of its mkNA.";

CI SIMILARITY: Belongs to the ABC transporter family.

BREA: APC22824; AAB83981.1; JOINED.

BREA: APC22825; AAB83981.1; JOINED.

BREA: APC22825; AAB83981.1; JOINED.

BREA: APC22837; AAB83981.1; JOINED.

BREA: APC22837; AAB83981.1; JOINED.

BREA: APC22837; AAB83981.1; JOINED.

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BREA: APC22837; AAB83981.1; JOINED.

BREA: APC22847; AAB83981.1; JOINED.

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BREA: APC22847; AAB83981.1; JOINED.

BREA: APC22847; AAB83981.1; JOINED.

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BREA: APC22847; AAB83981.1; JOINED.

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GO; GO:0016021; C:integral to membrane; IEA.
GO; GO:000524; F:ATP binding; IEA.
GO; GO:000166; F:ATPase activity, coupled to tra
GO; GO:000166; F:TATP binding; IEA.
GO; GO:000510; P:Tansporter activity; IEA.
GO; GO:000510; P:Tansporter activity; IEA.
INTERPO: IPRO01593; AAA ATPase.
INTERPO: IPRO01140; ABC membrane 1.
INTERPO: IPRO0140; ABC TWLTANSPT.
INTERPO: IPRO0140; ABC TWLTANSPT.
INTERPO: IPRO0199; PROC TRANSPORTER.
INTERPO: IPRO00719; PROC Exinase.
Pfam; PF00005; ABC membrane; 2.
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361 QTLVTHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSSTVGEIVNLMSVDAQRFMD 420
                                   LATYINMIWSAPLQVILALYLLWINLGPSVLAGVAVMVLMVPVNAVNAMKTKTYQVAHMK
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                                                                     LSIFLFMCNHVSALASNYWLSLWTDDPIVNGTQEHTKVRLSVYGALGISQGIAVFGYSMA
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             SSSYSGDISRHHNSTAELQKAEAKKEETWKLMEADKAQTGQVKLSVYWDYMKAIGLFISF
                               SSSYSGDISRHHNSTAELQKAEAKKEETWKLMEADKAQTGQVKLSVYWDYMKAIGLFISF
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Canis.
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multidrug
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-!- SIMILARITY: Belongs to the ABC transporter family.
EMBL, AY363728; AAQ23148.1; --
GO; GO:0016021; C:integral to membrane; IEA.
GO; GO:0005524; F:ATP binding; IEA.
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QGURO5

1D GGURO5;

AC GGURO5;

DT 05-JUL-2004 (TrEMBLrel. 27, Created)

DT 05-JUL-2004 (TrEMBLrel. 27, Last sequence update)

DT 05-JUL-2004 (TrEMBLrel. 27, Last sequence update)

DT 05-JUL-2004 (TrEMBLrel. 27, Last sequence update)

DT 05-JUL-2004 (TrEMBLrel. 27, Last sequence update)

DF 05-JUL-2004 (TrEMBLrel. 27, Last sequence update)

DF 05-JUL-2004 (TrEMBLrel. 27, Last sequence update)

DG Manne-MRP1;

OS Canis familiaris (DOG).

OC Enkaryota; Manmalia; Eutheria; Carnivora; Fissipedia; Canidae; Canidae; Canidae;
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SEQUENCE FROM N.A.

MEDLINE=22404678; PubMed=12516967;

Ma L., Pratt S.E., Cao J., Dantzig A.H.,

"Identification and characterization of tresitance-associated protein.";

Mol. Cancer Ther. 1:1335-1342(2002).
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SEQUENCE FROM N.A.
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PROSITE; PS50929; ABC_TMIF; 2. PROSITE; PS50929; ABC_TMIF; 2. PROSITE; PS50821; ABC_TRANSPORTER_1; 2. PROSITE; PS50893; ABC_TRANSPORTER_2; 2. ATP-binding.

1 1 1 1 1 1 SEQUENCE 1456 AA. 1627.
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Pred. No. 0;
0; Mismatches
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llarity 96.1%;
Conservative
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Best Local Similarity
Matches 1456; Conserv
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                                                                                           AVYSNADIYLFDDPLSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIV
                                                                                                      1021 ALGISQGITVFGYSMAVSIGGIFASRRLHVDLLQNVLRSPMSFFERTPSGNLVNRFSKEL
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Bos taurus (Bovine).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
Bovinae; Bos.
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ID QBHXQ5
ID QBHXQ5
DT QBHXQ5
DT 01-MAR-2003 (TrEMBLrel. 23, Created)
DT 01-MCT-2003 (TrEMBLrel. 23, Last sequence update)
DT 01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DF Multidrug resistance protein 1.
GN Name-NRP1.
OS Bos taurus (Bovine).
OS Bustaryota; Metazoa; Chordata; Craniata; Vertebrata; Eu OC Mammalia; Butheria; Cetartiodactyla; Ruminantia; Pecor OC Bovinae; Bos.
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GO; GO: 0042626; F:ATPase activity, coupled to transmembrane m. R. GO; GO: 000166; F:nucleotide binding; IEA.
RG; GO: 0005115; F:transporter activity; IEA.
RG; GO: 00052115; F:transporter activity; IEA.
RG; GO: 00066110; F:transporter.
RI InterPro; IPR0011527; ABC membrane 1.
RI THERPTO; IPR0011527; ABC membrane 1.
RI THERPTO; IPR001139; AAA_ATPase.
RI THERPTO; IPR001139; ABC_Transporter.
RI THERPTO; IPR001139; ABC_Transporter.
RI THERPTO; IPR001139; Prof. kinase.
Refam; PR000015; ABC_Transporter; 2.
Refam; PR000006; ABC_Transporter; 2.
RP000015; ABC_Transporter; 2.
RP000017; ABC_TRANSPORTER_1; 2.
RP0011F; PS00121; ABC_TRANSPORTER_1; 2.
RP0011F; PS00121; ABC_TRANSPORTER_1; 2.
RP0011F; PS00101; PR0TEIN KINASE_ATP; UNKNOWN 1.
RP0011F; PS00107; PROTEIN KINASE_ATP; UNKNOWN 1.
RP0011F; PS00107; PROTEIN KINASE_ATP; UNKNOWN 1.
RP0011F; PS00107; PROTEIN KINASE_ATP; UNKNOWN 1.
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Best Local Similarity 91.6%; Pred. No. 0;
Matches 1402; Conservative 70; Mismatches 59;
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                          MEDLINE-22062955; PubMed=12067707; DOI=10.1016/S0014-5793(02)02816-8; X SEQUENCE FROM N.A.
TAGUCHY Y. Saeki K., Komano T.;
Taguchi Y., Saeki K., Komano T.;
Thunctional analysis of MRPI cloned from bovine.";
FEBS Lett. 521:211-213(2002).
T. -- SMILIARITY: Balcings to the ABC transporter family.
EMBL; AB082124; BAC15550.1; --
SMILIARITY: Balcings to the ABC transporter family.
R GO; GO:0016021; C:Integral to membrane; IEA.
GO; GO:0016021; C:Integral to membrane; IEA.
GO; GO:001667; F:ATP binding; IEA.
GO; GO:00166; F:ATP binding; IEA.
GO; GO:00166; F:ATP binding; IEA.
R GO; GO:00166; F:ATP binding; IEA.
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R GO; GO:0004810; PRO03439; ABC_transporter.
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ive 83; Mismatches
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ProDom; PD000006; ABC_transporter;
SMART; SM00382; AAA; 2.
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                                               IMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFSLLLIQLVLSCFSDRSP
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                                                                                                                                     MEDLINE-98008927; PubMed-9344662; DOI=10.1006/geno.1997.4950; Grant C.E., Kurz E.U., Cole S.P., Deeley R.G.; Manalysis of the intron-exon organization of the human multidrugresistance protein gene (MRP) and alternative splicing of its mRNA."; Genomics 45:368-378(1997).

-I. SIMILARITY: Belongs to the ABC transporter family.

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R GO; GO: 0016021; C:integral to membrane; NAS.

GO; GO: 0016021; C:integral to membrane; NAS.

GO; GO: 0006810; P:transport; NAS.

R GO; GO: 0006810; P:transport; NAS.

R InterPro; IPR01527; ABC_membrane 1.

R InterPro; IPR01527; ABC_membrane 1.

R InterPro; IPR0013439; ABC_transporter.

R InterPro; IPR0013439; ABC_transporter.

R InterPro; IPR0013439; MRP assoc.

R InterPro; IPR00179; Prof. kinase.

R Pfam; PF000005; ABC_membrane; 2.

R Probom; PR00005; ABC_tran; 1.

R Probom; PR000179; Prof. kinase.

R Probom; PR000199; ABC_tran; 1.

R PROSITE; PR001019; ABC_TRANSPORTER 1; UNKNOWN 1.

R PROSITE; PS00121; ABC_TRANSPORTER 2; 2.

R PROSITE; PS00107; PROTEIN_KINASE_ATP; UNKNOWN 1.
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157209 MW; C7C4DBB78DADDAAA CRC64;
                                                                       Craniata; Vertebrata; E
Catarrhini; Hominidae;
    01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
Multidrug resistance protein (Fragment).
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AF022832; AAB83982.1; JOINED.
AF022830; AAB83982.1; JOINED.
AF022829; AAB83982.1; JOINED.
AF022828; AAB83982.1; JOINED.
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Mammalia; Eutheria; Primates;
01-MAY-2000 (TrEMBLrel. 13, 01-MAR-2004 (TrEMBLrel. 26,
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1400 AA;
                                                       Homo sapiens (Human)
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SLFNVIGACIVILLATPIAAIIIPPLGLIYFFVQRFYVASSRQLKRLESVSRSPVYSHFN 1025

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         ETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRWLAVRLECVGNCIVLFAAL 1216
                                ETLIGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRWLAVRLECVGNCIVLFAAL 1085
                                                                    1337 TLGLFRINESAEGEIIIDGINIAKIGLHDLRFKITIIPQDPVLFSGSLRMNLDPFSQYSD 1396
                                                                                                                                                                                                   EEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLVCLARALLRKTKILVLDEA 1456
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WEDLINE-22354683; PubMed=12466851; DOI=10.1038/nature01266;

NAZAZKI Y. Puruno M., Katukawa T., Adachi J., Bono H., Kondo S.,

NA Mikaido I., Osato N., Saito R., Suzuki H., Yamanaka I., Kiyosawa H.,

Naja K., Tomaru Y., Hasegawa Y., Nogami A., Schonbach C., Gojobori T.,

Baldarelli R., Hill D.P., Bult C., Hume D.A., Quackenbush J.,

Chriml L.M., Kanapin A., Matuada H., Batalov S., Beisel K. W.,

Blake J.A., Bradt D., Brusic V., Chothia C., Corbani L.E., Cousins S.,

Blake J.A., Bradt D., Brusic V., Chothia C., Corbani L.E., Cousins S.,

Blake J.A., Bradt D., Hetcher C.F., Forrest A., Frazar K.S.,

Blake J.A., Gustincich S., Hirokawa N., Jackson I.J., Jarvis E.D.,

Kanai A., Kawaji H., Kawasawa Y., Kedzierski R.M., King B.L.,

Konagaya A., Kurochkin I.V., Lee Y., Leharda B., Lyons P.A.,

Nagashima T., Numata K., Okido T., Pavan W.J., Pertea G., Pesole G.,

Petrovsky N., Pillai R., Pontius J.U., Qi D., Ramachandran S.,

Ravasi T., Reed J.C., Reed D.J., Reid J., Ring B.Z., Ringwald M.,

Sandelin A., Schneider C., Semple C.A., Setou M., Shimada K.,
                                                      PAVISRHSLSAGLVGLSVSYSLQVTTYLNWLVRMSSEMETNIVAVERLKEYSETEKEAPW
                                                                                                      QIQETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRHINVTINGGEKVGIVGRTGAGKSSL
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25-OCT-2004 (Rel. 45, Last sequence update)
25-OCT-2004 (Rel. 45, Last annotation update)
Multidrug resistance-associated protein 1 (ATP-binding cassette, subfamily C, member 1).
Name-Abccl; Synonyms-Abccla, Abcclb, Mdrap, Mrp;
Mus musculus (Mouse).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "Structure and expression of the messenger RNA encoding the murine multidrug resistance protein, an ATP-binding cassette transporter."; Mol. Pharmacol. 49:962-971(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE=96251691; PubMed=8649356;
Stride B.D., Valdimarsson G., Gerlach J.H., Wilson G.M., Cole S.P.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
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TISSUE=Muscle;
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                                                                     MLVTDSAGKQLQRQLSSSSSYSGDISRHHNSTAELQKAEAKKEETWKLMEADKAQTGQVK 959
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     RAVYSNSDIYLFDDPLSAVDAHVGKHIFEKVVGPMGLLKNKTRILVTHGISYLPQVDVII
                           VMSGGKISEMGSYQELLARDGAFAEFLRTYASTEQEQDAEENGVTGVSGPGKEAKQMENG
                                        YGALGISQGIAVFGYSMAVSIGGILASRCLHVDLLHSILRSPMSFFERTPSGNLVNRFSK
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Rattus norvegicus (Rat).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Rattus.
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Yabuuchi H., Takayanagi S., Ishikawa T.;
Submitted (FEB-2002) to the EMBL/GenBank/DDBJ databases.
-!- SIMILARITY: Belongs to the ABC transporter family.
EMBL; AF447549; AA085437.1; -.
HSSP; P08716; IMT0.
GO; GO:0016021; C:integral to membrane; IEA.
GO; GO:0005524; F:ATP binding; IEA.
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01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
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Extracellular (By similarity).

15 (By similarity).

Cytoplasmic (By similarity).

16 (By similarity).

Extracellular (By similarity).

17 (By similarity).

Cytoplasmic (By similarity).

ABC transporter 1.

ABC transporter 2.

APP (Potential).

ATP (Potential).

N'Inked (GloNac. ..) (Potential).

N'Inked (GloNac. ..) (Potential).

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N'Inked (GloNac. ..) (Potential).
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01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
03-MAILidurg resistance associated protein 1.
04-MARCHART SOURCE (RAT).
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          coupled to transmembrane
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GO; GO:0042626; F:ATPase activity, coupled to transme GO; GO:000166; F:nucleotide binding; IEA.
GO; GO:0005115; F:transporter activity; IEA.
GO; GO:0006310; F:transport: IEA.
R GO; GO:0006310; P:transport: IEA.
R InterPro; IPRO01353; AAA_ATPase.
R InterPro; IPRO01353; AAA_ATPase.
R InterPro; IPRO01359; ABC_Transporter.
R InterPro; IPRO01349; ABC_Transporter.
R InterPro; IPRO01399; ABC_Transporter.
R InterPro; IPRO01399; ABC_Transporter.
R InterPro; IPRO01399; ABC_Transporter.
R Ffam; PF00664; ABC_membrane; 2.
R Ffam; PF006006; ABC_tran; 2.
R ProDom; PD000006; ABC_tran; 2.
R ProDom; PD000006; ABC_tran; 2.
R PROSITE; PS00031; ABC_TRANSPORTER 1; 2.
R RROSITE; PS00031; ABC_TRANSPORTER 1; 2.
R ROSITE; PS00031; ABC_TRANSPORTER 2; 2.
R PROSITE; PS00031; ABC_TRANSPORTER 2; 2.
R PROSITE; PS00031; ALDÖKETO_REDUCTASE 3; UNKNOWN 1.
A ATP-binding.
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                                                                              1080 ELDTVDSMIPQVIKMFMGSLFSVIGAVIIILLATPIAAVIIPPLGLVYFFVQRFYVASSR
                              MLVTDSAGKQLQRQLSSSSYSGDISRHHNSTAELQKAEAKKEETWKLMEADKAQTGQVK
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                 PMVISSIVQASVSLKRLRIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTWARSDPP
                                                                  TLNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAWIQN
                                                                                                                   DSLRENILFGCQLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGGKQRVSLA
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       Yang Z., Li C.S. W., Shen D.D., Ho R.J.Y.;
Submitted (OCT-2002) to the EMBL/GenBank/DDBJ databases.
L. Similarity.
EMBL, AN10916, Belongs to the ABC transporter family.
EMBL, AN10916, Balongs to the ABC transporter family.
EMBL, AN10916, BAN8632.1;
EMBL, AN10916, BAN8632.1;
EMBL, AN10916, BAN8632.1;
EMBC, GO:0005524; FATP binding, IEA.
GO; GO:0005215; FATP binding, IEA.
GO; GO:0005215; F:Taransporter activity, coupled to transmembrane GO; GO:0005215; F:transporter activity, IEA.
EMCO; GO:0005215; F:Taransporter activity; IEA.
EMCO; GO:0005215; AAA-ATPASSS.
EMCOPPRO; IPR001395; AAA-ATPASSS.
EMCOPPRO; IPR001395; ABC_TRANSPORTER.
EMICEPPO; IPR001395; ABC_TRANSPORTER.
EMCOPPO; IPR001395; ABC_TRANSPORTER.
EMPLORMS PERMI, PERONGOS; ABC_TRANSPORTER.
EMPLORMS PERMI, PERONGOS; ABC_TRANSPORTER; Z.
EMCONDON; PR0010006; ABC_TRANSPORTER; Z.
EMCONDON; PR0010006; ABC_TRANSPORTER; Z.
                                                                                                      transmembrane
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TIGRFAMB; TIGR00957; MRP assoc_pro; 1.
PROSITE; PS50929; ABC_TMIF; 2.
PROSITE; PS50893; ABC_TRANSPORTER_1; 2.
PROSITE; PS50893; ABC_TRANSPORTER_2; 2.
PROSITE; PS60893; ALDOKETO_REDUCTĀSE_3; UNKNOWN_1.
                                                                                                                                                                                                                                                                                                                                                                                  Query Match
70.0%; Score 6932.5; DB 2;
Best Local Similarity 87.3%; Pred. No. 0;
Matches 1338; Conservative 100; Mismatches 92;
STRAIN=Sprague-Dawley; TISSUE=Brain;
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                         Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
NCBI_TaxID=10116;
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SEQUENCE FROM N.A.

A Takayanagi S., Ishikawa T.;

A Takayanagi S., Ishikawa T.;

Submitted (NOV-2002) to the EMBL/GenBank/DDBJ databases.

-!- SIMILARITY: Belongs to the ABC transporter family.

R EMBL; AV14892; AA044983.1; -- ABC transporter family.

R EMBL; AV14892; AAAP Bloiding; IEA.

GO; GO:0016021; C:integral to membrane; IEA.

GO; GO:00016524; F:ATP Binding; IEA.

GO; GO:00016524; F:ATP Binding; IEA.

GO; GO:0001651; F:TATPASE activity, coupled to transmembrane

GO; GO:00016524; F:ATPASE activity; coupled to transmembrane

GO; GO:0001651; F:TATPASE activity; COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED COUPLED CO
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ATP-binding cassette protein Cl variant A.
Name-Abccl;
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87.0%; Pred. No. 0;
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Best Local Similarity 87.08
Matches 1333; Conservative
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Strausberg R.;
Submitted (MAR-2003) to the EMBL/GenBank/DDBJ databases.
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01-JUN-2003 (TrEMBLrel. 24, Last seq
01-MAR-2004 (TrEMBLrel. 26, Last ann
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                                                                                                                                                                  Homo sapiens (Human).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
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The German cDNA Consortium;
The German cDNA Consortium;
The German cDNA Consortium;
The German cDNA Consortium;
Noberter K. Beyer A., Mewes H.W., Weil B., Amid C., Osanger P. Cobo G., Han M., Wiemann S.;
Lubmitted (SEP-2004) to the EMBL/GenBank/DDBJ databases.
EMBL; CR7499835, CAH16691.1,
EMBL; CR7499835, CAH16691.1,
InterPro; IPR001140; ABC_TM_transpt.
InterPro; IPR001140; ABC_TM_transpt.
InterPro; IPR001292; MRP assoc.
InterPro; IPR0005292; MRP assoc.
InterPro; IPR0005292; MRP assoc.
Frien; PP000064; ABC_transporter; 2.
R Probom; PD0000065, ABC_transporter; 2.
R Probom; PD0000065, ABC_transporter; 2.
R PROSITE; PS00211; ABC_TRANSPORTER_1; 2.
R PROSITE; PS00211; ABC_TRANSPORTER_1; 2.
R PROSITE; PS00211; ABC_TRANSPORTER_1; 2.
R PROSITE; PS00107; PROTEIN KINASE_ATP; UNKNOWN_1.
ATP-binding; Hypothetical_protein.
ATP-binding; Hypothetical_protein.
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Last annotation update)
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Pred. No. 0;
                                                                             Created)
                                                                     25-OCT-2004 (TrEMBLrel. 28, Create 25-OCT-2004 (TrEMBLrel. 28, Last 8 C-OCT-2004 (TrEMBLrel. 28, Last 8 Hypochetical protein DKFzp781G125.
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Best Local Similarity 98.9%;
Matches 1202; Conservative (
                                      PRELIMINARY;
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                                                                                                                                                                                                                      NCBI_TaxID=9606;
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FENVIGERGMLKNKTRILVTHSMSYLPQVDVIIVMSGGKISEMGSYQELLARDGAFAEFL
                                                                                                LSIFLFMCNHVSALASNYWLSLWTDDPIVNGTQEHTKVRLSVYGALGISQGIAVFGYSMA
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                                                                                                                                                            SSSYSGDISRHHNSTAELOKAEAKKEETWKLMEADKAOTGOVKLSVYWDYMKAIGLFISF
                                                                                                                                                                                                                                                          LSIFLFMCNHVSALASNYWLSLWTDDPIVNGTQEHTKVRLSVYGALGISQGIAVFGYSMA
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Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus
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01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
Similar to ATP-binding cassette, sub-family C (CFTR/MRP), member
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1433 GORQLVCLARALLRKTKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIM 1492
                                                                                                                                                                                                                                      1013 KVRLSVYGALGISQGIAVFGYSMAVSIGGILASRCLHVDLLHSILRSPMSFFERTPSGNL 1072
                                                                                                                                                              DS-----AGKQLQRQLSSSSYSGDIS-----RHHNSTAELQKAEAKKEETWKLMEADK 952
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         IXLFDDPLSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIVMSGGKIS
                                                                 EMGSYQELLARDGAFAEFLRTYASTEQEQDAEENGVTGVSGPGKEAKQMENGML----VT
                                                                                                              1001 SVRLGVYAALGILQGLLVMLSAFTWVVGAIQAARLLHEALLHNKIRSPQSFFDTTPSGRI
                                                                                                                                                                                                                                                                                                YVASSRQLKRLESVSRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPS
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he: 212.942 secs
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                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                          38;
                                                                                                                                                                                                                                                  Length 1519;
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                                                                                                                                                                                                                   SIMILARITY: Belongs to the ABC transporter family
                                             membrane; IDA
                                                                                                                                                                                                                                                  Query Match
45.7%; Score 4522; DB 2;
Best Local Similarity 56.2%; Pred. No. 2.5e-270;
Matches 865; Conservative 269; Mismatches 366;
                           MGD; MGI:1923689; Abcc3.

MGD; MGI:1923689; Abcc3.

GO; GO:0005887; C:integral to plasma membrare.
InterPro; IPR001359; AAA_ATPasea.
InterPro; IPR0011527; ABC membrane.1.
InterPro; IPR00140; ABC_TM transpt.
InterPro; IPR005439; ABC_transporter.
InterPro; IPR00529; MRP assoc.
Pfam; PF00064; ABC_membrane; 2.
ProDom; PD000006; ABC_tran; 2.
ProDom; PD000006; ABC_tran; 2.
IGRRAMs; IGR00957; MRP assoc_pro; 1.
PROSITE; PS50929; ABC_TMIF; 2.
PROSITE; PS50929; ABC_TMIF; 2.
PROSITE; PS50929; ABC_TMIF; 2.
PROSITE; PS50939; ABC_TRANSPORTER_1; 2.
PROSITE; PS50939; ABC_TRANSPORTER_2; 2.
         EMBL; BC048825; AAH48825.1; -. HSSP; P26361; 1R0Z.
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ATP-binding.
NON TER
SEQUENCE 11
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Patent No. 576680
GENERAL INFORMATION:
APPLICANT: Cole, Susan P.C.
APPLICANT: Deeley, Roger G.
TITLE OF INVENTION: ISOLATED NUCLEIC ACID MOLECULES ENCODING
TITLE OF SEQUENCES: 9
CORRESPONDENCE ADDRESS: 9
CORRESPONDENCE ADDRESS:
ADDRESSEE: PARTEQ RESEARCH & DEVELOPMENT INNOVATIONS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ADDRESSEE: PARTEQ RESEARCH & DEVELOPMENT INNOVATIONS STREET: Queen's University at Kingston CITY: Kingston
US-09-636-215-538

US-09-685-166A-538

US-09-759-143-538

US-09-651-236-538

US-09-651-230-3

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US-09-651-230-3

US-09-651-230-3

US-09-651-230-3

US-09-651-230-3

US-09-685-166A-537

US-09-681-166A-537

US-09-651-236-537

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STATE: ONLEATION
COUNTRY: CANADA
ZIP: KTJ 3N6
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII text
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/463,092B
FILING DATE: 05-JUN-1995
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/029,340
FILING DATE: 27-0CT-1992
CLASSIFICATION: 435
PRIOR APPLICATION ATA:
APPLICATION NUMBER: 08/029,340
FILING DATE: 26-0CT-1993
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/407,207
FILING DATE: 26-0CT-1993
CLASSIFICATION: 435
PRIOR APPLICATION ATA:
APPLICATION NUMBER: 08/407,207
FILING DATE: 20-MAR-1995
CLASSIFICATION: 435
PRIOR APPLICATION ATA:
APPLICATION NUMBER: 39,539
REGERENCE/DOCKT NUMBER: 39,539
REFERENCE/DOCKT NUMBER: 39,539
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Sequence 19, 2
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                    GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
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US-08-460-907B-6
US-08-461-384B-6
US-08-471-140B-6
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US-08-463-092B-2
US-08-462-109A-2
US-08-460-907B-2
US-08-463-179A-2
US-08-461-384B-2
US-08-461-304B-2
US-08-463-092B-6
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Maximum Match 100%
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Fatent No. 5882875
GENERAL INFORMATION:
APPLICANT: Cole, Susan P.C.
APPLICANT: Deeley, Roger G.
TITLE OF INVENTION: METHODS FOR IDENTIFYING
TITLE OF INVENTION: MULTIDRUG RESISTANT TUMOR CEL.
NUMBER OF SEQUENCES: 6
CORRESPONDENCE ADDRESS:
ADDRESSEE: LAHIVE & COCKFIELD
STREET: 60 State Street, suite 510
CITY: Boston
STATE: Massachusetts
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DKGEIQEYGAPSDLLQQRGLFYSMAKDAGLV 1531
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CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/462,109A
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MEDIUM TYPE: Floppy disk
COMPUTER: IEB PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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CLASSIFICATION: 435
RIOR APPLICATION DATA:
APPLICATION NUMBER: 07/966,923
FILING DATE: 27-007-1992
APPLICATION NUMBER: 08/029,340
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                                                                                                                                                                              MALRGFCSADGSDPLWDWNVTWNTSNPDFTKCFQNTVLVWVPCFYLWACFPFYFLYLSRH
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78.5%; Score 7860; D
Best Local Similarity 100.0%; Pred. No. 0;
Matches 1531; Conservative 0; Mismatches
             LENGTH: 1531 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-463-092B-4
SEQUENCE CHARACTERISTICS
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Patent No. 5891724
GENERAL INFORMATION:
APPLICANT: Deeley, Roger G.
APPLICANT: Cole, Susan P.C.
TITLE OF INVENTION: METHODS FOR CONFERRING MULTIDRUG
TITLE OF INVENTION: RESISTANCE ON A CELL
NUMBER OF SEQUENCES: 9
CORRESPONDENCE ADDRESS:
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Best Local Similarity 100.0%; Pred. No. 0;
Matches 1531; Conservative 0; Mismatches
FILING DATE: 8-MAR-1993
APPLICATION NUMBER: 08/141,893
FILING DATE: 26-0CT-1993
APPLICATION NUMBER: 08/407,207
FILING DATE: 20-MAR-1995
ATTORNEY/AGENT INFORMATION:
NAME: Deconti, Giulio A. Jr.
REGISTRATION NUMBER: 31,503
REFERENCE/DOCKET NUMBER: 90.002CP4
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 227-740
TELEPHONE: (617) 227-5941
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                       LENGTH: 1531 amino acida
TYPE: amino acid
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MOLECULE TYPE: protein
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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII text
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/460,907B
FILING DATE: 05-JUN-1995
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/966,923
FILING DATE: 27-0CT-1992
CLASSIFICATION NUMBER: 08/029,340
FILING DATE: 27-0CT-1993
CLASSIFICATION NUMBER: 08/11,893
FILING DATE: 26-0CT-1993
CLASSIFICATION DATA:
APPLICATION NUMBER: 08/11,893
FILING DATE: 20-MAR-1995
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/11,893
FILING DATE: 20-MAR-1995
CLASSIFICATION: 424
PRIOR APPLICATION: 424
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PRIOR APPLICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: SLEEGY CAIOL Mienicki
REGISTRATTON NUMBER: 01551
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TOPOLOGY: linear
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                                                                               Sequence 4, Application US/08463179A
Patent No. 6001563
GENERAL INFORMATION:
APPLICANT: Cole, Susan P.C.
APPLICANT: Deeley, Roger G.
TITLE OF INVENTION: METHODS FOR IDENTIFYING CHEMOSENSITIZERS NUMBER OF SEQUENCES:
CORRESPONDENCE ADDRESS:
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100.0%; Pred. No. 0;
ive 0; Mismatches
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/966,923
FILING DATE: 27-0CT-1992
APPLICATION NUMBER: 08/029,340
FILING DATE: 8-MAR-1993
APPLICATION NUMBER: 08/141,893
FILING DATE: 26-0CT-1993
APPLICATION NUMBER: 08/407,207
FILING DATE: 20-MAR-1995
ATTORNEY AGENT INFORMATION:
NAME: DECONT, GILLIO A. JT.
REGISTRATION NUMBER: 31,503
REFERENCE/DOCKET NUMBER: 31,503
REFERENCE/DOCKET NUMBER: 11,503
REFERENCE/DOCKET NUMBER: 901-002CP8
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                       ZIP: 02109
ZIP: 02109
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC COMPATIBLE
SOFTWARE: ASCII text
CURRENT APPLICATION NUMBER: US/08/463,179A
                                                                                                                                                                                                                     3: LAHIVE & COCKFIELD
60 State Street, suite 510
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amino acid
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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Best Local Similarity 100.
Matches 1531; Conservative
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CITY: Boston
STATE: Massachusetts
COUNTRY: USA
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	1321	QY 1381 SGSLRMNLDPFSQYSDEEVWTSLELAHIKDFVSALPDKLDHECAEGGENLSVGQR	Qy 1441 ARALLKKTKILVLDBATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYT 	Qy 1501 DKGEIQEYGAPSDLLQQRGLFYSMAKDAGLV 1531 	RESULT 5 US-084461-384B-4	Sequence 4, Application US/U84613846   Patent No. 6025473   GENERAL INFORMATION:   APPLICANT: Cole, Susan P.C.	Deeley, Roger G. VENTION: MULTIDRUC EQUENCES: 10 NCE ADDRESS:	# 0 <del>1</del> 9	COUNTXY: CANADA  1 ZIP: K7L 3NG COMPUTER READABLE FORM: MEDIUM TYPE: Floppy disk	CONFORTER SYSTEM PC-DOS/MS-DOS SOFTWARE: ASCII text CURRENT APPLICATION DATA:	AFFLIANG DATE: 05-4UN-95 FILING DATE: 05-4UN-95 FRIOR APPLICATION DATA: APPLICATION NUMBER: 07/966,923	FILING DAIE: 27-0C1-1992   APPLICATION NUMBER: 08/029,340   FILING DATE: 8-MAR-1993   APPLICATION NUMBER: 08/141,893   APPLICATION	FILING DAIE: 26-0CI-1993 APPLICATION NUMBER: 08/407,207 FILING DAIE: 20-MAR-1995 ATTORNEY/AGENT INFORMATION:		IELEFAX: (613) 542-2342   TELEFAX: (613) 545-6853   INFORMATION FOR SEQ ID NO: 4:   SEQUENCE CHARACTERISTICS:	; LENGTH: 1531 amino acids ; TYPE: amino acid ; MOLECULE TYPE: protein ; ARAR-461-344R-4	10 E 9. 02000 1000. 10 3. 1 . 1 . 1 . 1	ocas Similarity 100.0%; Pred. No. 0; Lengun 1551 1531: Conservative 0: Mismatches 0: Indels	Similarity (2008; Pred. No. 0; Ds 3; Leuglu 1; Conservative 0; Mismatches 0; Indels MALRGECSADGSDELWDWNVTWNTSNPDFTKCFONTVLVWVDCFYLM

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                                                       EKVGIVGRTGAGKSSLTLGLFRINESAEGEIIDGINIAKIGLHDLRFKITIIPODPVLF
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APPLICANT: Fox Chase Cancer Center
APPLICANT: Fox Chase Cancer Center
APPLICANT: Kruh, Gary D.
APPLICANT: Evel, Kun
APPLICANT: Belinsky, Martin G.
APPLICANT: Bain, Lisa J.
TITLE OF INVENTION: MPP.Related ABC Transporter Encoding
TITLE OF INVENTION: NUMBER: US/09/647,140B
TITLE OF INVENTION: NUMBER: US/09/644
FRICA FILING DATE: 1299-03-26
PRIOR FILING DATE: 1999-03-26
PRIOR PELICATION NUMBER: 60/079,759
PRIOR PELICATION NUMBER: 60/079,759
PRIOR FILING DATE: 1998-03-27
PRIOR FILING DATE: 1998-03-27
PRIOR FILING DATE: 1998-03-27
PRIOR FILING DATE: 1998-08-03
NUMBER OF SEC ID NOS: 33
SOFTWARE: FastSEQ for Windows Version 3.0
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Best Local Similarity 100.0%; Pred. No. 0;
Matches 1531; Conservative 0; Mismatches
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Patent No. 6803184
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CRCANISM: Homo Sapiens
US-09-647-140B-19
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us-10-665-283-8.rai

; INFORMATION FOR SEQ ID NO: 2: ; SEQUENCE CHARACTERISTICS: ; LENGTH: 1531 amino acids ; TYPE: amino acids ; TOPOLOGY: 1inear ; MOLECULE TYPE: protein US-08-463-092B-2 Query Match Best Local Similarity 99.9%; Pred. No. 0; Matches 1529; Conservative 0; Mismatches 2; Indels 0; Gaps 0;	OY 1 MALKGPCSADGSDPLWDWNVTWNTSNPDFTKCFQNTVLVWVPCFYLWACFPFYFLYLSRH 60 1 MALKGFCSADGSDPLWDWNVTWNTSNPDFTKCFQNTVLVWVPCFYLWACFPFYFLYLSRH 60 OY 61 DRGYIQMTPLNKTKTKTALGFLLWIVCWADLFYSFWRRSRGIFLAPVFLVSPTLLGITTLLA 120	Db 61 DRGYIQMTPINKTKTALGFILMIVCWADLFYSFWERSRGIFLAPVFLVSFTLLGITTLLA 120  Qy 121 TFLIQLERRKGVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS 180	QY         181 LLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWMITGLIVRGYRQPLEGSD 240           Db         181 LLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWMITGLIVRGYRQPLEGSD 240           QY         241 LWSLNKEDTSEQVPVLVKNWKKECAKTRKQPVKVVYSKDPAQPKESSKVDANEEVBAL 300	Db 241 IMSIAKEDTSEQVVPVIAVRAWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVEAL 300  Qy 301 IVKSPQKEMNPSLFRVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPD 360	361 WQGYFTVLLFVTACLGTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSSTV 4	QY 421 GEIVNLMSVDAQREMDLATYINMINSAPLQVILALYLLWLNLGPSVLAGVAVNVLMVPVN 480	Qy 481 AVMAMKTKTYQVAHMKSKDNRIKLMNEILNGIKVLKLYAWELAFKDKVLAIRQEELKVLK 540	Qy 541 KSAYLSAVGTFTWVCTPFLVALCTFAVYVTIDENNILDAQTAFVSLALFNILRFPLNILP 600 1 KSAYLSAVGTFTWVCTPFLVALCTFAVYVTIDENNILDAQTAFVSLALFNILRFPLNILP 600	Qy 601 MVISSIVQASVSLKRIRIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTWARSDPT 660	Qy         661 LNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAMIQND 720           LIHIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	Qy 721 SLRENILFGCQLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGCKQRVSLAR 780	Qy 781 AVYSNADIYLFDDPLSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIV 840	QY         841 MSGGKISEMGSYQELLARDGAFAEFLRTYASTEGEQDAEENGVTGVSGPGKEAKQMENGM 900           DD         841 MSGGKISEMGSYQELLARDGAFAEFLRTYASTEQEQDAEENGVTGVSGPGKEAKQMENGM 900	Qy 901 LVTDSAGKQLQRQLSSSSYSGDISRHHNSTAELQKAEAKKEETWKLMEADKAQTGQVKL 960
	1381 SGSLKWINDFFSQYSDEEWWISLELAHLEKNFVSALPDKLDHECAEGGENLSVGRQUVCL 144  1381 SGSLRWILDPFSQYSDEEWWYSLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQUVCL 144  1481 ARALLRKTKILVLDEATAAVDLSTDDLIQSTIRTQFEDCTVLTIAHRLATIMDYTRVIVL 150	DD 1441 AKALLKKIKILVLDEATAAVDLEIDDLIQSIIKIQFEDCIVLTIAHKLNIIMDYIKVIVL 1500  QY 1501 DKGEIQEYGAPSDLLQQRGLFYSMAKDAGLV 1531  DD 1501 DKGEIQEYGAPSDLLQQRGLFYSMAKDAGLV 1531	RESULT 8 US-08-463-092B-2 ; Sequence 2, Application US/08463092B ; Patent No. 5766880 ; GENERAL INFORMATION: ; APPLICANT COLP. SURAN P.C.	; APPLICANT: Deeley, Roger G. ; TITLE OF INVENTION: ISOLATED NUCLEIC ACID MOLECULES ENCODING ; TITLE OF INVENTION: MULTIDRUG RESISTANCE PROTEINS ; NUMBER OF SEQUENCES: 9 ; CORRESPONDENCE ADDRESS:	) ADDRESSEE: PARTEQ RESEARCH & DEVELOPMENT INNOVATIONS ; STREET: Queen's University at Kingston ; CITY: Kingston ; STATE: Ontario	COUNTRY: CANADA  COMPUTER READABLE FORM:  MEDIUM TYPE: Floppy disk  COMPUTED: TOW FORM:	さんマン	; APPLICATION NUMBER: US/08/463, U92B ; FILING DATE: 05-JUN-1995 ; CLASSIFICATION: 435 ; PRIOR APPLICATION DATA:	400	T in at	APPLICATION NUMBER: 08/141,893 ; FILING DATE: 26-0CT-1993 ; CLASSIFICATION: 435 ; PRIOR APPLICATION DATA:	യ്ഥ്	2004	; TELEPHONE: (613) 545-2342 ; TELEFAX: (613) 545-6853

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61 DRGYIQMTPLNKTKTALGFLLMIVCWADLFYSFWERSRGIFLAPVFLVSPTLLGITTLLA 120
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           APPLICATION NUMBER: 08/029,340
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Best Local Similarity 99.9
Matches 1529; Conservative
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SVYWDYMKAIGLFISFLSIFLFMCNHVSALASNYWLSLWTDDPIVNGTQEHTKVRLSVYG
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APPLICANT: Deeley, Roger G.
TITLE OF INVENTION: METHODS FOR IDENTIFYING
TITLE OF INVENTION: MULTIDRUG RESISTANT TUMOR C
NUMBER OF SEQUENCES: 6
CORRESPONDENCE ADDRESS: 6
CORRESPONDENCE ADDRESS: 6
ADDRESS: LAHIVE & COCKFIELD
STREET: 60 State Street, suite 510
CITY: Boston
STATE: Massachusetts
COUNTRY: USA
ZIP: WAS SACHUSETTS
COUNTRY: WAS SACHUSETTS
MEDIUM TYPE: Floppy disk
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: ASCII text
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/462,109A
FILING DATE:
CLASSIFICATION DATA:
APPLICATION NUMBER: 07/966,923
FILING DATE: 27-0CT-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DKGEIQEYGAPSDLLQQRGLFYSMAKDAGLV 1531
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Patent No. 5882875
GENERAL INFORMATION:
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Pred. No. 0;
0; Mismatches
               COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII text
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/460,907B
FILING DATE: 05-UN-1995
CLASSIFICATION: 424
                                                                                                                                                                        CLASSIFICATION: 16.7

RIOR APPLICATION DATA:
APPLICATION NUMBER: 07/966,923
CLASSIFICATION: 424
PRIOR APPLICATION: 424
PRIOR APPLICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/141,893
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/141,893
FILING DATE: 26-0CT-1993
CLASSIFICATION: 424
PRIOR APPLICATION: 424
PRIOR APPLICATION: 424
PRIOR APPLICATION: 424
PRIOR APPLICATION: 424
PRIOR APPLICATION NUMBER: 08/407,207
FILING DATE: 20-WAR-1995
CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: Steeg, Carol Miernicki
REGISTRATION NUMBER: 39,539
REFERENCE/DOCKET NUMBER: 01551
TELECPMON: (613) 545-2342
TELEPRONE: (613) 545-6833
INFORMATION FOR SEQ ID NO: 2: SEQUENCE CHARACTERISTICS:
LENGTH: 1531 amino acids
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Best Local Similarity 99.9
Matches 1529; Conservative
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MOLECULE TYPE: protein
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US-08-460-907B-2
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Patent No. 5891724
GENERAL INFORMATION:
APPLICANT: Deeley, Roger G.
APPLICANT: Cole, Susan P.C.
TITLE OF INVENTION: METHODS FOR CONFERRING MULTIDRUG
TITLE OF INVENTION: RESISTANCE ON A CELL
NUMBER OF SEQUENCES: 9
CORRESPONDENCE ADDRESS:
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APPLICANT: Cole, Susan P.C.
APPLICANT: Cole, Susan P.C.
APPLICANT: Cole, Susan P.C.
APPLICANT: Cole, Susan P.C.
APPLICANT: Cole, Susan P.C.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOFTWARE: ASCII text
CURRENT APPLICATION DATA:
PPLICATION NUMBER: US/08/463,179A
FILING DATE:
CLASSIFICATION: 536
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/966,923
FILING DATE: 27-0CT-1992
APPLICATION NUMBER: 08/029,340
FILING DATE: 8-MAR-1993
APPLICATION NUMBER: 08/141,893
FILING DATE: 26-0CT-1993
APPLICATION NUMBER: 08/407,207
FILING DATE: 20-MAR-1993
APPLICATION NUMBER: 08/407,207
FILING DATE: 10-MAR-1993
APPLICATION NUMBER: 08/407,207
FILING DATE: 10-MAR-1993
ATTORNEY/AGENT INFORMATION:
NAME: DECONEL, GIULLO A. JF.
REGISTRATION NUMBER: 31,503
REPERENCE/DOCKET NUMBER: 91-0002CPB
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                   Sequence 2, Application US/08463179A
Patent No. 6001563
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INFORMATION FOR SEG ID NO: SEQUENCE CHARACTERISTICS:
LENGTH: 1531 amino acids
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MOLECULE TYPE: protein
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                                         GEIVNLMSVDAQRFMDLATYINMIWSAPLQVILALYLLMLNLGPSVLAGVAVMVLMVPVN
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Pred. No. 0;
                                                                                                                                                                                                                                                  DKGEIQEYGAPSDLLQQRGLFYSMAKDAGLV
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CARGESTORDAND AND ADDRESSEE:
CATTY: Kingeton
STAFE: Queen's University at Kingeton
STAFE: Ontario
COUNTRY: CANADA
ZIP: WTJ. 3NG
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII text
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/461,384B
FILING DATE: 05-JUN-95
PRILING DATE: 27-OCT-1992
APPLICATION NUMBER: 08/029,340
FILING DATE: 8-MAR-1993
APPLICATION NUMBER: 08/141,893
APPLICATION NUMBER: 08/141,893
APPLICATION NUMBER: 08/141,893
APPLICATION NUMBER: 08/407,207
FILING DATE: 20-OCT-1993
APPLICATION NUMBER: 08/407,207
FILING DATE: 20-OCT-1993
APPLICATION NUMBER: 08/407,207
FILING DATE: 20-OCT-1993
APPLICATION NUMBER: 08/407,207
FILING DATE: 20-OCT-1993
APPLICATION NUMBER: 08/407,207
ATTORNEY AGENT INFORMATION:
ANAWE: CACAT CALOI MAGENTALE
                                                                                                                                                                                                                                                                                                                       RESULT 12
US-08-461-384B-2
; Sequence 2, Application US/08461384B
; Patent No. 6025473
; GENERAL INFORMATION:
APPLICANT: Cole, Susan P.C.
APPLICANT: Deeley, Roger G.
TITLE OF INVENTION: MULTIDRUG RESIS
NUMBER OF SEQUENCES: 10
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME: Steeg, Carol Miernicki
REGISTRATION NUMBER: 39,539
REFERENCE/DOCKET NUMBER: 01547
TELECOMMUNICATION INFORMATION:
TELEPHONE: (613) 545-2342
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 1531 amino acids
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Matches 1529; Conservative
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MOLECULE TYPE: protein
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61 DRGX.LOWTPLAKTIKTPA.LGF1.LWIVCRADI.PVSEWERS SPG.T FILA DVETLUG STITLL 1.27 1711.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1	TFLIQLERRKGVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS	181 LLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD 240	VEAL 	KAPD       KAPD	361 WQXFYTVLLFVTACLQTLVLHQXFHICFVSGMRIKTAVIGAVYRKALVITNSARKSSTV 420 	421 GEIVNIMSVDAQREMDIATYINMIMSAPLQVILALYILMINIGPSVIAGVAVMVIAMVPVN 480 	481 AVWANKTKTYQVAHMKSKONRIKLMNBILMGIKVLKLYAWELAFKOKVLAIRQEELKVLK 540 	541 KSAYLSAVGTFTWVCTPFLVALCTFAVYVTIDENNILDAQTAFVSLALFNILRFPLNILP 600 	601 MVISSIVQASVSLKRLRIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTWARSDPPT 660 	661 INGITESIPEGALVAVVGOVGCGKSSLLSALLAEWDKVEGHVAIKGSVAYVPQQAWIQND 720 	721 SLRENILFGCQLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGGKQRVSLAR 780 	781 AVYSNADIYLFDDFLSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIV 840 	841 MSGGKISENGSYQELLARDGAFABFLRTYASTEQEQDAEENGVTGVSGPGKEAKQMENGM 900 	901 LVTDSAGKQLGRQLSSSSSYSGDISRHHNSTAELQKAEAKKEETWKLMEADKAQTGQVKL 960 		1021 ALGISOGIAVFGYSMAVSIGGILASRCLHVDLLHSILRSPMSFFERTPSGNLVNRFSKEL 1080 	SROL HOUSE	KRLESVSRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRWLA
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1256 VAVERLKEYSETEKEAPPQIQETAPPSTWPHSGRVEFRDYCLRYREDLDLVLKHINVTIE 1315
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             LSVYWDYMKAIGLFISFLSIFLFMCNHVSALASNYWLSLWTDD-PIVNGTQEHTKVRLSV
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                                                RAVYSNADIYLFDDPLSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVII
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; Patent No. 5882875
; GENERAL INFORMATION:
APPLICANT: Cole, Susan P.C.
APPLICANT: Deeley, Roger G.
TITLE OF INVENTION: MULTIDRUG RESISTANT TUMOR CELLS
INUMBER OF SEQUENCES: 6
CORRESONDE LAHIVE & COCKFIELD
ADDRESSEE: LAHIVE & COCKFIELD
STREET: 60 State Street, suite 510
CITY: Boscon
CITY: Boscon
STATE: Wasachusetts
COUNTRY: USA
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US-08-462-109A-6
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                                                                                                                                                                                                                                                                          Best Local Similarity 88.0%; Pred. No. 0, Matches 1349; Conservative 102; Mismatches
 CLASSIFICATION: 435

PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/407,207
FILING DATE: 20-MAR-1995
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Steeg, Carol Miernicki
REGISTRATION NUMBER: 39,539
REFERENCE/DOCKET NUMBER: 01546
TELECOMMUNICATION INFORMATION:
TELEPROME: (613) 545-2342
INFORMATION FOR SEQ ID NO: 6:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                    : 1528 amino acids
amino acid
                                                                                                                                                                                                         TOPOLOGY: linear
MOLECULE TYPE: protein
                                                                                                                                                                                                                                    US-08-463-092B-6
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                                                                     PMVISSIVQASVSLKRLRIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTWARSDPP
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COMPUTER READBLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII text
CURRENT APPLICATION DATA:
APPLICATION WUMBER: US/08/462,109A
FILING DATE:
CLASSIFICATION: 435
FILING DATE: 27-0CT-1992
APPLICATION NUMBER: 08/029,340
FILING DATE: 27-0CT-1993
APPLICATION NUMBER: 08/141,893
FILING DATE: 26-0CT-1993
APPLICATION NUMBER: 08/407,207
FILING DATE: 26-0CT-1993
APPLICATION NUMBER: 08/407,207
FILING DATE: 20-MAR-1995
ATTORNEY/AGENT INFORMATION:
RESISTRATION NUMBER: 31.503
REFERRNCE/DOCKET NUMBER: 901-002CP4
TELECOMMUNICATION INFORMATION:
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TELECOMUNICATION INFORMATION:
TELECOMMUNICATION INFORMA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LENGTH: 1528 amino acids
TYPE: amino acid
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MOLECULE TYPE: protein
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2: \cgn2_6/ptodata/2/pubpaa/PCT_MEW_PUB.pep:*
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5: \cgn2_6/ptodata/2/pubpaa/NS07_NEW_PUB.pep:*
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19: \cgn2_6/ptodata/2/pubpaa/US10_PUBCOMB.pep:*
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GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
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Maximum Match 100%
Listing first 45 summaries
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Gapop 10.0 , Gapext 0.5
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Maximum DB seq length: 200000000
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10016
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Perfect score:
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

Auery Score Match Length DB ID 7860 78.5 1531 11 US-09-939-853A-86 7860 78.5 1531 10 US-010-667-891-6 7860 78.5 1531 17 US-010-667-891-6 7769 77.6 1515 11 US-09-939-853A-88 7702.5 69.9 1528 11 US-09-939-853A-88 4491.5 44.8 1527 11 US-09-939-853A-88 4491.5 44.8 1527 11 US-09-939-853A-88 4491.5 44.8 1527 11 US-09-939-853A-88 4491.5 14.8 1527 11 US-09-939-853A-88 4396 43.9 1522 11 US-09-939-853A-88 7860.5 38.5 1548 16 US-10-667-891-1 3601.5 36.0 1509 16 US-10-667-891-4						SOMMARIES	
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	13	3601.5	36.0	1499	16	US-10-667-891-3	

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## ALIGNMENTS

JAPLICANT: Burgess et al.

JITLE OF INVENTION: No. US20040039163Alel Proteins and Nucleic Acids Encoding Same
FILE REPERENCE: 21402-099

CURRENT APPLICATION NUMBER: US/99/939,853A

CURRENT FILING DATE: 2001-08-27

PRIOR APPLICATION NUMBER: 60/228,191

PRIOR FILING DATE: 2000-08-25

PRIOR APPLICATION NUMBER: 60/269,961

PRIOR PILING DATE: 2001-02-20

PRIOR PILING DATE: 2001-02-20

PRIOR PILING DATE: 2001-02-20

PRIOR APPLICATION NUMBER: 60/269,961

PRIOR PILING DATE: 2001-02-20

PRIOR APPLICATION NUMBER: 60/277,337

PRIOR PILING DATE: 2001-02-20

PRIOR PILING DATE: 2001-03-20

NUMBER OF SEQ ID NOS: 159

SOFTWARE: Patentin Ver. 2.1 9 1 MALRGFCSADGSDPLWDWNVTWNTSNPDFTKCFQNTVLVWVPCFYLWACFPFYFLYLSRH Gaps ö DB 11; Length 1531; Indela ö 78.5%; Score 7860; D 100.0%; Pred. No. 0; ive 0; Mismatches Sequence 86, Application US/09939853A Publication No. US20040039163A1 GENERAL INFORMATION: Query Match 78.5 Best Local Similarity 100. Matches 1531; Conservative ; ORGANISM: Homo sapiens US-09-939-853A-86 ઠે

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61 DRGYIQMTPLNKTKTALGFLLWIVCWADLFYSFWERSRGIFLAPVFLVSFTLGITTLLA 120  121 TFLIQLERKGVOSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS 180  121 TFLIQLERKRGVOSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS 180  121 TFLIQLERKRGVOSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS 180  181 LLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD 240  181 LLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD 240  241 LWSLNKEDTSEQVVPVLVKWWKKECAKTRKQPVKVYYSSKDPAQPKESSKVDANEEVEAL 300  241 LWSLNKEDTSEQVVPVLVKWWKECAKTRKQPVKVYYSSKDPAQPKESSKVDANEEVEAL 300  241 LWSLNKEDTSEQVVPVLVKTFGPYFLMSFPFKAIHDLMMFSGPQILKLLIKFVNDTKAPD 360  301 IVKSPQKEWNPSLFKVLYKTFGPYFLMSFPFKAIHDLMFSGPQILKLLIKFVNDTKAPD 360  301 IVKSPQKEWNPSLFKVLYKTFGPYFLMSFPFKAIHDLMFSGPQILKLLIKFVNDTKAPD 360  301 IVKSPQKEWNPSLFKVLYKTFGPYFLMSFPFKAIHDLMFSGPQILKLLIKFVNDTKAPD 360  301 IVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMFSGPQILKLLIKFVNDTKAPD 360  301 IVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMFSGPQILKLLIKFVNDTKAPD 360  301 IVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMFSGPQILKLLIKFVNDTKAPD 360  421 GBIVNLMSVDAQRFMDLATYINMIWSAPLQVILALYLMLNIGPSVLAGVAVMVLMVPVN 480  421 GBIVNLMSVDAQRFMDLATYINMIWSAPLQVILALYLLMLNIGPSVLAGVAVMVLMVPVN 480	481 AWAMKIKITQVAHMKSKONRIKLANDEILNGIKVLKLYAWELAFKOKVLAIROBELKVILK 540 481 AWAAMKIKITQVAHMKSKONRIKLANDEILNGIKVLKATAMELAFKOKVLAIROBELKVILK 540 481 AWAAMKIKITYQVAHMKSKONRIKLANDEILNGIKVLKTAMELAFKOKVLAIROBELKVILK 540 541 KGAYLSAVGTFUWCTPELVALCTFAVYVIDENNILDAQTAFVSLAENILRFPLAILE 600 541 KGAYLSAVGTFUWCTPELVALCTFAVYVIDENNILDAQTAFVSLAENILRFPLAILE 600 541 KGAYLSAVGTFUWCTPELVALCTFAVYVIDENNILDAQTAFVSLAENILRFPLAILE 600 661 LMGITTFEILPGALVAWVGQVCGGKSSILSALLARBOKVTGGTANITYTRANTFTWARSDPPT 660 661 LMGITTFEILPGALVAWVGQVCGGKSSILSALLARBOKVTGGTANITYTRANTFTWARSDPPT 660 661 LMGITTFEILPGALVAWVGQVCGGKSSILSALLARBOKVTGGTANITYTRANTFTWARSDPPT 660 661 LMGITTFEILPGALVAWVGQVCGGKSSILSALLARBOKVTGGTANITYTRANTFTWARSDPPT 660 661 LMGITTFEILPGALVAWVGQVCGGKSSILLSALLARBOKVTGGTANITYTRANTFTWARSDPPT 660 661 LMGITTFEILPGALVAWVGQVCGGKSSILLSALLARBOKVTGGTANITYTRANTFTWARSDPPT 660 662 LMGITTFEILPGALVAWVGQVCGGKSSILLSALLARBOKVTGGTANITAMATTTWANTFTWARSDPPT 660 663 LMGITTFEILPGALVAWVGQVCGGKSSILLSALLARBOKVTGGTANITAMATTTWANTFTWARSDPPT 660 664 LMGITTFEILPGALVAWVGQVGGKSSILLSALLARBOKVTGGTANITAMATTTWANTFTWARSDPPT 660 665 LMGITTFEILPGALVAWVGGGKSSILLSALLARBOKVTGGTANITAMATTTWANTFTWARSNAT 780 721 SARENITAGGQLESPYRRVIAGALLARDGEILLPGGDREIGTGKGWALGAGGGCKARAGMRGM 900 722 SARENITAGGGLESPYRRVIAGALLARDGEALARAGMRGMANTGGTGGTANGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGTANATAGGTGGT

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Qy         1381 SGSLRWNLDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGORQLVCL         1440           bb         1381 SGSLRWNLDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGORQLVCL         1440           cc         1441 ARALLRKTKILVLDEATAAVDLETDDLJQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVL         1500           cc         1441 ARALLRKTKILVLDEATAAVDLETDDLJQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVL         1500           cc         1501 DKGEIQEYGAPSDLLQQRGLFYSMAKDAGLV         1531           cc         1501 DKGEIQEYGAPSDLLQQRGLFYSMAKDAGLV         1531	RESULT 3  US-10-444-577-678  US-10-444-577-678  Sequence 678, Application US/10484577  Publication No. US20050032724A1  GENERAL INFORMATION:  APPLICANT: EPIDAUROS Biotechnologie Aktiengesellschaft  TITLE OF INVENTION: Means and methods for improved treatment of cancer based of FILER REFERENCE: F2285PCT-1  CURRENT APPLICATION NUMBER: US/10/484,577  CURRENT APPLICATION NUMBER: EP 02/08220  PRIOR PILING DATE: 2002-07-23  PRIOR PILING DATE: 2001-07-23  PRIOR PILING DATE: 2001-07-23  PRIOR FILING DATE: 2001-07-23  PRIOR FILING DATE: 2001-07-23  PRIOR FILING DATE: 2002-05-24  NUMBER OF SEQ ID NOS: 683  SOFFWARE: Patentin version 3.1  SEQ ID NO 678  LENOTH: 1531  TYPE: PRT  US-10-484-577-678	Query Match         78.5%; Score 7860; DB 17; Length 1531;           Best Local Similarity 100.0%; Pred. No. 0;         0;           Matches 1531; Conservative 0; Mismatches 0; Indels 0; Gaps 0;           QY         1 MALKGFCSADGSDFLWDWNVTWNTSNDDFTKCFQNTVLWWVPCFYLWACFPFYFLYLSRH 60           Db         1 MALKGFCSADGSDPLWDWNVTWNTSNDDFTKCFQNTVLWWVPCFYLWACFPFYFLYLSRH 60	Qy         61 DRGYIQMTPLNKTKTALGFLLMIVCMADLFYSFWERSRGIFLAPVFLVSPTLLGITTLLA         120           bb         61 DRGYIQMTPLNKTKTALGFLWIVCMADLFYSFWERSRGIFLAPVFLVSPTLLGITTLLA         120           Qy         121 TFLIQLERRKGVOSSGIMLFFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS         180           Db         121 TFLIQLERRKGVQSSGIMLFFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS         180	181 LLLIQLVLSCFSDRSPLFSBTIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD 240	OY 301 IVKSPOKEMNPSLFKVLYKTPGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPD 360
241 IMSLNKEDTSEQVVPULVKNWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVEAL 300 301 IVKSPQKEWNPSLPKVLYKTPGPYFLMSFPFKAIHDLMMFSGPQILKLLIKFVNDTKAPD 360 301 IVKSPQKEWNPSLFKVLYKTPGPYFLMSFPFKAIHDLMMFSGPQILKLLIKFVNDTKAPD 360 361 WQGYPTVLLFVTACLQTLVLHQYFHICFVSGMEIKTAVIGAVRKALVITNSARKSSTV 420	AVMAMKTRTYQVAHMKSKDNRIKLANBILINGIKVLKLYAWELAFKDKVLAIROE	841 MSGGKISEMGSYQELLARDGAFAEFLRTYASTEGEQDAEENGVTGVSGFGKEAKQMENGM 900	961 SVYWDYMKAIGLFISFLSFELFMCNHVSALASNYWLSLWTDDPIVNGTQEHTKVRLSVYG 1020	1081 DTVDSMIPEVIKMFMGSLFNVIGACIVILLATPIAAIIIPPLGLIYFFVQRFYVASSRQL 1140	01 01 61 61 21
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                                                                GENERAL INFORMATION:

JUNEAR DELIGAM:

TITLE OF INVENTION: No. US20040039163A1el Proteins and FILE REPERENCE: 21402-099

CURRENT APPLICATION NUMBER: US/09/939,853A

CURRENT PILING DATE: 2001-08-27

PRIOR APPLICATION NUMBER: 60/228,191

PRIOR PILING DATE: 2000-08-25

PRIOR PILING DATE: 2001-02-08

PRIOR PILING DATE: 2001-02-08

PRIOR APPLICATION NUMBER: 60/267,300

PRIOR APPLICATION NUMBER: 60/267,300

PRIOR PILING DATE: 2001-02-08

PRIOR APPLICATION NUMBER: 60/277,337

PRIOR PILING DATE: 2001-02-0

PRIOR PILING DATE: 2001-03-20

PRIOR PLING DATE: 201-03-20

PRIOR PLING DATE: 201-03-20

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PRIOR PLING DATE: 201-03-20
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77.6%; Score 7769; D
Best Local Similarity 100.0%; Pred. No. 0;
Matches 1515; Conservative 0; Mismatches
    RESULT 4
US-09-939-853A-87
Sequence 87. Application US/09939853A
Publication No. US20040039163A1
GENERAL INFORMATION:
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ORGANISM: Homo sapiens
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               YRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGGKQRVSLARAVYSNADIYLFDDPLS
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                                                 YRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGQKQRVSLARAVYSNADIYLFDDPLS
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Sequence 1718, Application US/10408765A
Sequence 1718, Application US/10408765A
SEMENAL INFORMATION:
APPLICANT: Ghosh, Soumitra S.
APPLICANT: Zhang, Boin D.
APPLICANT: Zhang, Bing Bradford W.
APPLICANT: Taylor, Steven W.
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MSVDAQREMDLATYINMIWSAPLQVILALYLLWINLGPSVLAGVAVMVLMVPVNAVMAMK 486 546 ERRKGVQSSGIMLTFWLVALVČALAILRSKIMTALKEDAQVDLFRDITFYVYFSLLLIQL 186 KEWNPSLFKVLYKTFGPYFLMSFPFKAIHDLAMFSGPQILKLLIKFVNDTKAPDWGYFY 366 426 318 378 438 498 999 558 246 ------NPCPESSASFISRITFWMITGLIVRGYRQPLEGSDLMSLNK 138 306 198 909 726 618 786 678 846 738 SEMGSYQELLARDGARAEFLRTYASTEQEQDAEENGYTGYSGPGKEAKQMENGMLYTDSA 906 9 MSVDAQRFMDLATYINMIWSAPLQVILALYLLWLNLGPSVLAGVAVMVLMVPVNAVMK TKTYQVAHMKSKDNBIKLMBILNGIKVLKLYAWBLAFKDKVLAIRQEELKVLKKSAYLS LFGCQLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGQKQRVSLARAVYSNA TVLLFVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSSTVGEIVNL VQASVSLKRIRI FLSHEBLEPDSI BRRPVKDGGGTNS I TVRNA TFTWARSDPPTLNGI TF VQASVSLKRLRIFIEFIEFIEPDSIERRPVXDGGGTNSITVRNATFTWARSDPPTLNGITF SIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAVVPQQAWIQNDSLRENI VLSCPSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSDLWSLNK AVGTFTWVCTPFLVALCTFAVYVTIDENNILDAQTAFVSLALFNILRFPLNILPMVISSI SIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAWIQNDSLRENI MTPLNKTKTALGFLLWIVCWADLFYSFWERSRGIFLAPVFLVSPTLLGITTLLATFLIQL Gape 42; Length 1388 APPLICANT: Glenn, Gary M.
APPLICANT: Warnock, Dale E.
TITLE OF INVENTION: TARGETS FOR THERAPEUTIC INTERVENTION
TITLE OF INVENTION: IDENTIFIED IN THE MITOCHONDRIAL PROTEOME
FILE REFERENCE: 660088.465
CURRENT APPLICATION NUMBER: US/10/408,765A
CURRENT FILING DATE: 2003-04-04
NUMBER OF SEQ ID NOS: 3077
SOFTWARE: Past SEQ for Windows Version 4.0 Indels 16; ï B Score 7037; DE Pred. No. 0; Mismatches Query Match
Best Local Similarity 97.0%;
Matches 1387; Conservative CRGANISM: Homo sapiens US-10-408-765A-1718 787 847 619 8 8 8 8

DWNVTWNTSNPDFTKCFQNTVLVWVPCFYLWACFPF) DNNVTWHTSNPDFTKCFQNTVLTWVPCFYLWSCFPL) LGFLLWIVCWADLFYSFWERSRGIFLAPVFLVSPTLI LGFFLWILCWADLFYSFWERSQGVLRAPVLLVSPTLI LGFFLWILCWADLFYSFWERSQGVLRAPVLLVSPTLI INLTFWLVALLCALAILRSKIMTALKEDAQVDLFRDI IMLTFWLVALLCALAILRSKIISALKKDAHVDVFRDS LFSETIHDDNPCPESSASFLSRITFWWITGLIVRGYS		DWGCYEYTVLEFTACTOTIVHOYFHICEVSGMBIKTAVIGAVRKALVITNSARKSST 4	53 54 59 60	PWVISSIVQASVSLKRLRIFLSHEELEPDSIERRPVKDCGGTNSITVRNATFTWARSDPP	720 DSLRENILFGCQLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGYNLSGGGKQRVSLA 779	840 VMSGGKISEMGSYQELLARDGAFAEFLRTYASTEGEQDAEENGVTGVSGPGKEAKQMENG 899	960 LSVYWDYMKAIGLFISFLSIFLEMCNHVSALASNYWLSLWTDD-PIVNGTQEHTKVRLSV 1018
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188 LSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSDLWSLNKE 247		594 QASVSLKRIQQFLSQEELDPQSVERKTISPGYAITHSGTFTWAQDLPPTLHSLDIQ 650 668 IPEGALVAVVGQVGCGKSSLLSALLLEMDKVGHVAIKGSVAYVPQQAWIQNDSLRENIL 727 651 VPKGALVAVVGPVGCGKSSLLSALLLEMDKVGHVAIKGSVAYVPQQAWIQNDSLRENIL 727 651 VPKGALVAVVGPVGCGKSSLVSALLGEMEKLEGKVHMKGSVAYVPQQAWIQNCTLQENVL 710 728 FGCQLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVMLKGGCQKQRVSLARAVYSNAD 787 711 FGKALNPKRYQQTLEACALLADLEMLPGGDQTEIGEKGJNLSGGQRQRVSLARAVYSDAD 770 788 IYLPDDPLSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIVMSGGKIS 847 771 FGILDNDLSAVNGHVAKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIVMSGGKIS 847 771 FFILDNDLSAVNGHVAKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIVMSGGKIS 847	EMGSYGELLARDGAFAEFLRTYASTEOEODAEENGVTGVSGPCKEAKOMENGML	1012 TKVRLSVYGALGISGGIAVFGYSMAVSIGGILASRCLHVDLLHSILRSPMSFFERFPSGN 1071
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	1379   LESGSLRWILDPESQYSDEEVWTSLELAHLKDFVSALPDKLDHEGAEGGENLSVGGRQLV	RESULT 7 US-09-939-853A-83 US-09-939-853A-83 US-09-939-853A-83 US-09-939-853A-83 US-09-939-853A-83 US-09-939-853A-83 US-09-939-853A US-09-93-93-93-93-93-93-93-93-93-93-93-93-93	PRIOR APPLICATION NUMBER: 60/267,300 PRIOR PILING DATE: 2001-02-08 PRIOR PILING DATE: 2001-02-08 PRIOR PILING DATE: 2001-02-20 PRIOR PILING DATE: 2001-03-20 PRIOR PILING DATE: 2001-03-20 PRIOR APPLICATION NUMBER: 60/277,337 PRIOR PILING DATE: 2001-03-20 NUMBER OF SEQ ID NOS: 159 SOFTWARE: Patentin Ver: 2.1 FENGIN: 1527 TYPE: PRT CRGNISM: Homo sapiens	Ouery Match  Query Match  Best Local Similarity 56.7%; Pred. No. 0;  Matches 873; Conservative 260; Mismatches 371; Indels 35, Gaps 9;  Qy  8 SADGSDPLWDWNTWNTSNPDFTKCFONTVLVWVPCFYLWACFPYFLYLSRHDRGYIQM 67

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1188 YIISNRWLSIGVEFVGNCVVLFAALFAVIGRSSLNPGLVGLSVSYSLQVTFALNWNIRM 1247
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127 RLQGVQSSGVLIIFWFLCVVCAIVPFRSKILLAKAEGEISDPFRFTTFYIHFALVLSALI 186
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APPLICANT: Ginberg, Wendy M.
APPLICANT: Ginberg, Wendy M.
APPLICANT: Glyne, Richard
APPLICANT: Glyne, Richard
APPLICANT: Hevezi, Peter A.
APPLICANT: Hovezi, Peter A.
APPLICANT: Watson; Susan and H.
APPLICANT: Watson; Susan and H.
APPLICANT: Watson; Susan and APPLICANT: Watson; Susan and TITLE OF INVENTION: Methods of Diagnosis of Cancer.
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TITLE OF INVENTION: MOTHORE: US 09/663,733
PRIOR APPLICATION NUMBER: US 60/35,666
PRIOR FILING DATE: 2001-11-12
PRIOR PELLING DATE: 2001-11-12
PRIOR PELLING DATE: 2001-11-29
PRIOR PELLING DATE: 2001-11-29
PRIOR PELLOR NUMBER: US 60/340,376
PRIOR FILING DATE: 2001-11-29
PRIOR FILING DATE: 2001-11-29
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PRIOR FILING DATE: 2002-01-08
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44.8%; Score 4491.5; DB 15; Lengt.
Best Local Similarity 56.7%; Pred. No. 0;
Matches 873; Conservative 260; Mismatches 371; Indels
                                                                                         MDYTRVIVLDKGEIQEYGAPSDLLQQRGLFYSMAKDAGL 1530
                                                                                                                                                                                                                              Sequence 1342, Application US/10295027
Publication No. US20030232350A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                             APPLICANT: Afar, Daniel
APPLICANT: Afaz, Nacasha
APPLICANT: Ginsberg, Wendy M.
APPLICANT: Gish, Kurt C.
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US-10-295-027-1342
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LENGTH: 1527
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                                                                          NATETWARSDPPTINGITESIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAIKGS
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                            1425 QRQLVCLARALLERKSRVLVLDEATAAIDLETDDLIQGTIRTQFEDCTVLTIAHRLNTIMD 1484
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1365 PQDPILFSGTLRMNLDPFGRYSDEDIWRTLELSHLSAFVSSQPTGLDFQCSEGGDNLSVG 1424
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                                                                                                                                                                                                                                                                                                                                              Query Match
38.5%; Score 3860.5; DB 16; Length 1548;
Best Local Similarity 50.0%; Pred. No. 6.2e-318;
Matches 784; Conservative 274; Mismatches 438; Indels 71;
                                                       YTRVIVLDKGEIQEYGAPSDLLQQRGLFYSMAKDAGL 1530
                                                                TYPE: PRT
ORGANISM: Drosophila melanogaster
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    RNATFTWARSDPPTLNGITFSIPEGALVAVVGOVGCGKSSLLSALLAEMDKVEGHVAIKG
                                                                                                         SVAYVPOOAWIONDSLRENILFGCOLEEPYYRSVIOACALLPDLEILPSGDRTEIGEKGV
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US-10-667-891-3
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GPRNPLTMNDMYDINPQDSARELVPPPDKYWKISVEKGRKQQM------ASDRKAGK 284
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                                                                                                         APPLICANT: BREY, PAUL T.
APPLICANT: BREY, PAUL T.
APPLICANT: BREY, PAUL T.
APPLICANT: GRAILLES, MARINE
APPLICANT: GRAILLES, MARINE
APPLICANT: GRAILLES, MARINE
APPLICANT: GRAILLES, MARINE
APPLICANT: GRAILLES, MANDHELES
TITLE OF INVENTION: MULTIDRUG RESISTANCE PROTEINS IN DROSOPHILA AND
TITLE OF INVENTION: MANOPHELES
FILE REFERENCE: 03495.0294-00000
CURRENT APPLICATION NUMBER: US/10/667,891
CURRENT FILING DATE: 2003-09-26
NUMBER OF SEQ ID NOS: 76
SOFTWARE: PALENT VEY. 3.2
SEQ ID NO 4
LENGTH: 1505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   60 HDRGYIQMTPLNKTKTALGFLLMIVCWADL-FYSFWERSRGIFLAPVFLVSPTLLGITTL
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Best Local Similarity 48.0%; Pred. No. 5.9e-296;
Matches 750; Conservative 280; Mismatches 444; Indels
                                                                    Sequence 4, Application US/10667891
Publication No. US20040171024A1
GENERAL INFORMATION:
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AKDANLV
                                       RESULT 12
US-10-667-891-4
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APPLICANT: THE AUGTRALIAN NATIONAL UNIVERSITY
APPLICANT: THE AUGTRALIAN NATIONAL UNIVERSITY
APPLICANT: THEREND, PHILLIP
APPLICANT: HARRIS, MATTHEW
TITLE OF INVENTION: MODIFIED PROTEINS, ISOLATED NOVEL PEPTIDES, AND USES THEREOF
FILE REFERENCE: 007643-0302189
CURRENT APPLICATION NUMBER: US/10/363,112
PRIOR FILING DATE: 2003-11-03
PRIOR FILING DATE: 2001-08-31
PRIOR FILING DATE: 2000-08-31
PRIOR FILING DATE: 2000-08-31
NUMBER OF SEQ ID NOS: 62
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                                                      QKQRVSLARAVYSNADIYLFDDPLSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSY
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                                                                                                                                            ; Sequence 4, Application US/10363112; Publication No. US20040091964A1; GENERAL INFORMATION:
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                           APPLICANT: HOLM, INCE
APPLICANT: GRAILLES, MARINE
APPLICANT: GRAILLES, MARINE
APPLICANT: GRAILLES, MARINE
TITLE OF INVENTION: MULTIDRUG RESISTANCE PROTEINS IN DROSOPHILA AND
TITLE OF INVENTION: ANOPHELES
FILE REPREBACE: 03495.0294-00000
CURRENT APPLICATION NUMBER: 60/413,469
PRIOR APPLICATION NUMBER: 60/413,469
PRIOR FILLING DATE: 2002-09-26
NUMBER OF SEQ ID NOS: 76
SOFTWARE: PATERILI Ver. 3.2
SEQ ID NO 3
                                                                                                                                                                                                                                                                                                                                                        Length 1499
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36.0%; Score 3601.5; UB 10; UB 10; UB 10; DEST Local Similarity 47.9%; Pred. No. 8.68-296;
Matches 744; Conservative 283; Mismatches 448; Indels
                                                                                                                                                                                                                                                                                TYPE: PRT
ORGANISM: Anopheles gambiae
ROTH, CHARLES W
BREY, PAUL T.
HOLM, INGE
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Sequence 4, Application US/10252155
Publication No. US2004006805A1
GENERAL INFORMATION:
GENERAL INFORMATION:
GENERAL INFORMATION:
HAPPLICATUS Elistol-Myers Squibb Company
ITILE OF INVENTION: HUMAN SINGLE NUCLECTIDE POLYMORPHISMS IN ORGANIC ANION TRANSPORT
ITILE OF INVENTION: HUMAN SINGLE NUCLECTIDE POLYMORPHISMS IN ORGANIC ANION TRANSPORT
ITILE OF INVENTION: HUMBER: US/10/252,155
CURRENT PELLING DATE: 2002-09-20
PRIOR PPLICATION NUMBER: US 60/324,172
PRIOR PILING DATE: 2001-09-21
PRIOR PILING DATE: 2001-01-27
PRIOR FILING DATE: 2001-11-27
NUMBER OF SEQ ID NOS: 783
SOFURMAR: PATENTIN VERSION 3.1
                                                                                              TVHDGSEEEDDDYGLISSVEEIP--EDAASITMRRENSFRRTLSRSSRSNGRHLKSLRNS
                               AELOKAEAKKEET----WKLMEADKAQTGQVKLSVYWDYMKAIGLFISFLSIFLFMCNH
                                                                                 VSALASNYWLSLWT-DDPIVNGTQ---EHTKVRLSVYGALGISQGIAVFGYSMAVSIGGI
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                                                                                                                                                         LEKECN-----STEWNSSFLDSPEADLPLCFEQTVLVMIPLGFLWLLAPWQLLHV
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                                                                                                                     Gaps
                                                                                                                    72;
                                                                                           Length 1542;
                                                                                                                  Indels
                                                                                         Query Match 35.9%; Score 3600; DB 15; Best Local Similarity 47.6%; Pred. No. 1.2e-295; Matches 747; Conservative 287; Mismatches 462;
                                                   sapiens
SOFTWARE: Patentin
                                               ORGANISM: Homo
                    TYPE: PRT ORGANT
                                                              US-10-363-112-4
                                                                                                                                                                                           26
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            SEQ ID NO 4
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116	TTLLATFLIQLERRKGVQSSGIMLT-FWLVALVCALAILRSKIMTALKEDAQVDLFRDIT 174 
175	PYVVFSLLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQ 234
235	PLEGSDLWSLNKEDTSEQUVPVLVKNWKKECAKTRK
282	PAQPKESSKVDANEEVEALIVKSPQKEWNPSLFKVL/KKTFGPYFLMSFFFKAIHDLAM 339   :::
340	FSGPQILKLLIKEVNDTKAPDWQGYEYTVLLEVTACLOTLVLAQYEHICFVSGMRIKTAV 399
400	IGAVYRKALVITNSARKSSTVGEIVNLASVDAQREMDLATYINMINSAPLQVILALYLLM 459 ::  :    ::
460	LNLGBSVLAGVAVMVLMVPVNAVMAMKTKTYQVAHMKSKDNRIKLAMBILNGIKVLKLYA 519 
520	WELAFKDKVLAIRQEELKVLKKSAVLSAVGTFTWVCTPFLVALCTFAVYVTIDENNILDA 579     -  -  -  -  -  -        -  -
580	QTAFVSLALFNILRPPLNILPMVISSIVQASVSLKRIFLSHEELEPDSIERRPVKDGG 639
640	GTNSITVRNATFTWARSDPPTLNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKVE 699 ::  -
700	GHVAIKGSVAYVPQQAWIQNDSLRENILFGCQLEEPYYRSVIQACALLPDLEILFSGDRT 759 
760	EIGEKGVNLSGCGKORVSLARAVYSNADIYLFDDPLSAVDAHVGKHIFENVIGPKGMLKN 819 
820	KTRILVTHSNSYLPQVDVIIVWSGGKISEMGSYQELLARDGAFAEFLRTY-ASTEGEGDA 878    :       :     :     :  WIRLLVTHSMHFLPQVDEIVVLGNGTIVEKGSYSALLAKKGEFAKNLKTFLRHTGPEEEA 872
879	EENGVTGVSGPGKEAKQMENGMLVTDSAGKQLQRQLSSSSSVSGDISRHHNST 931
932	AELOKAEAKKEETWKLWEADKAQTGOVKLSVYWDYMKAIGLFISFLSIFLFWCNH 986 
987	VSALASNYWLSLWT-DDPIVNGTQEHTKVRLSVYGALGISQGIAVFGYSMAVSIGGI 1042   ::

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1230 1170 1222 1462 1043 LASRCLHVDLLHSILRSPMSFFERTPSGNLVNRFSKELDTVDSMIPEVIKMFMGSLFNVI 1102 1051 HASNILHKQLLNNILRAPMRFFDTTPTGRIVNRFAGDISTVDDTLPQSLRSWITCFLGII LELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLVCLARALLRKTKILVLDEATAAVDL 1523 SMAKDAGL 1530 |||:||: 1530 FMAKEAGI 1537 1403 8 8 g ò 음 장 원 수 명 8 6 8 6 ò ପ୍ଧ ò 원

Search completed: March 18, 2005, 11:51:47 Job time : 622.662 secs

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Cancer/an PRO polyp A human M

Homo sapi Multi-dru Multi-dru Bovine MR Multi-dru Human hea Murine mu Mouse mul Mouse mul Murine mu Murine mu Murine mu Murine mu Murine mu Murine mu

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Adf56611
Adf56611
Adj6995
Adw99895
Aaw98989
Aaw98987
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Aay78874
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score:

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Sequence:

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Run on:

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Result

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This represents a variant of the human multidrug resistance-associated protein (MRP). This natural variant is a leismania P-glycoprotein related
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Multidrug resistance-associated protein; MRP; tumour; human; variant; multidrug resistance; MDR; leismania P-glycoprotein; ltPgpA; Lei/PgpA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DNA encoding protein associated with multi-drug resistance as probe for identifying multi-drug resistant tumour cells.
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/note= "wild-type Leu is replaced by Ser"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /label= R1282A
/note= "wild-type Arg is replaced by Ala"
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                AAR9653
AAR9655
AAR965611
AAR96555
AAW9821487
AAW9821
AAR98211
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93US-00029340.
93US-00141893.
95US-00407207.
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N-PSDB; AAV31498.

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08-MAR-1993;
26-OCT-1993;
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PRO polyp
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Aaw99894
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Compugen Ltd.
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Listing first 45 summaries
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1: geneseqp1980s:*
2: geneseqp2000s:*
4: geneseqp2001s:*
5: geneseqp201s:*
6: geneseqp2003as:*
7: geneseqp2003as:*
8: geneseqp2003bs:*
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molecule ltPgpA (Lei/PgpA). The human and murine MRP nucleic acid molecules can be used as probes for identifying multidrug resistant tumour cells by hybridisation to mRNA from tumour cells. The antisense nucleic acid can be used to reverse multidrug resistance (MDR). A recombinant expression vector containing the MRP nucleic acid molecules operatively linked to at least one regulatory sequence can be used to transform a host cell to produce a recombinant MDR-associated protein
                                                                                                                                                                                                                       DRGY I QMTPLNKTKTALGFLLWI VCWADLFYSFWERSRGI FLAPVFLVSPTLLGI TTLLA
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Deeley RG; 1999-214061/18 N-PSDB; AAX21977 WPI:

Identifying a multidrug resistant tumor cell by contacting the cell with an antibody/antigen-binding fragment - which binds to an expressed protein encoded by multidrug resistance-associated protein (MRP) nucleic

Claim 3; Col 69-80; 80pp; English.

This sequence is the human multidrug resistance-associated (MDR) protein.

The invention relates to a method for identifying a multidrug resistant (MDR) tummour cell. Compositions and methods utilising the MDR proteins can be used to treat patients with tummours displaying multidrug resistance, particularly those displaying resistance to anthracyclines, epipodophylotoxins, vinca alkaloids, and hydrophobic drugs. The methods for inhibiting/killing a MDR tummour cell can be useful for treating breast cancer, leukaemias, fibrosarcomas, cervical cancer, gliomas, thyomas, neuroblastomas and lung cancer. The MDR DNA sequences when labeled are useful as molecular probes for diagnosing multidrug resistance of a tummour (using cells from a tummour biopsy) and for designing ribozymes which are capable of cleaving a single-stranded nucleic acid encoding a protein having MRP activity. Recombinant expression vectors containing human MDR coding sequences can be transfected into a drug sensitive cell line to produce a protein in the cell which confers MDR, protecting non-resistant non-tummour cells from transfermed with the MDR coding sequences are useful for testing transformed with the MDR coding sequences are useful for testing potential therapeutic agents for their effectiveness against MDR cells and for identifying chemoshersitisers of a therapeutic agent 

Sequence 1531 AA

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300 360 120 120 180 180 240 300 9 LWSLNKEDTSEQVVPVLVKNWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVEAL 61 DRGYIQMTPLNKTKTALGFLLMIVCWADLFYSFWERSRGIFLAPVFLVSPTLLGITTLLA TFLIQLERRKGVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS IVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPD 1 MALRGFCSADGSDPLWDWNVTWNTSNPDFTKCFQNTVLVWVPCFYLWACFPFYFLYLSRH DRGYIQMTPLNKTKTALGFLLWIVCWADLFYSFWERSRGIFLAPVFLVSPTLLGITTLLA TPLIQLERRKGVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS LLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD LWSLNKEDTSEQVVPVLVKNWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVEAL Gaps 6 Length 1531; Indels ; 5, <u>B</u> Query Match 78.5%; Score 7860; I Best Local Similarity 100.0%; Pred. No. 0; Matches 1531; Conservative 0; Mismatches 241 61 121 181 121 181 241 301 g ઠે ઠે 음 ઠે g δ ద ò පු 8

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                                                                                                                                     multidrug resistance-associated protein; MRP; cytotoxic drug; chemotherapy.
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                                                                                                      Human multidrug resistance-associated protein natural variant.
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Best Local Similarity 100.
Matches 1531; Conservative
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N-PSDB; AAX19818.
             AAW99894 standard;
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                                                                                                                                                   The invention provides a method for identifying a substance which is a chemosensitizer that comprises, contacting a cell transfected with nucleic acid encoding multidrug resistance-associated protein (MRP) with a therapeutic agent in vitro. The method is useful for identifying chemosensitizers which may then be used to treat cancer (especially lung acancer, The method allows the identification of chemosensitizers which do not reverse P-glycoprotein-mediated multidrug resistance. The present sequence represents a human MRP variant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Chemosensitizer; multidrug resistance-associated protein; MRP; human; therapeutic agent; P-glycoprotein-mediated multidrug resistance; lung; cancer; variant.
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                                                                                                                                                                                                                                                                                                                            variant amino acid sequence.
                                                                              VRLECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTTYLNWLVRMSSEMETNIVA
DIVDSMIPEVIKMFMGSLFNVIGACIVILLATPIAAIIIPPLGLIYFFVQRFYVASSRQL
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                                  This sequence represents a human multidrug resistance protein (MRP) returnal variant amino acid sequence. The human MRP confers multidrug resistance, including resistance to at least two drugs selected from anthracyclines, epipodophylloxxins and vinca alkaloids, on a drug sensititive mammalian cell, when the protein is expressed in the cell. The which reverse P-glycoprotein-mediated multidrug resistance. The MRP protein sequence can be used to generate antibodies against MRP. The MRP protein and nucleotide sequences can be used in compositions which are used to treat patients with tumours displaying multidrug resistance. The treat breast cancer, leukaemias, fibrosancomas, cervical cancer, the momonstance of the invention can be used particularly to the hymonas, neuroblastonas, and lung cancer. Antibodies directed against MRP can be used to inhibit the multidrug resistance of a multidrug
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Detecting a prostate cancer-associated transcript in a cell in a patient, useful for diagnosing prostate cancer (PC) or screening modulators of PC, by determining if prostate cancer-associated genes are expressed in a

Claim 27; Page 309; 436pp; English.

prostate tissue.

Hevezi P;

Afar D,

Wilson KE,

Gish KC,

2002-471335/50 Mack DH,

N-PSDB; ABK92125

(EOSB-) EOS BIOTECHNOLOGY INC

08-DEC-2000; 2000US-00733742. 24-JAN-2001; 2001US-0263957P. 16-MAR-2001; 2001US-0276791P. 16-MAR-2001; 2001US-0276888P. 06-APR-2001; 2001US-02861922P. 24-APR-2001; 2001US-0286214P. 30-APR-2001; 2001US-00847046.

2000US-00733288 2000US-00733742 2001US-0263957P

12-OCT-2001; 2001WO-US032045

-1 61 121 181 121 181 241 ઠે 셤 ò g ò 셤 ò mammal; cytostatic. cancer; prostate tumour tissue; human; protein #11, ABG61810 standard; protein; 1531 Prostate cancer-associated (first entry)

IVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPD 360

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WO200230268-A2

18-APR-2002

15-AUG-2002

Prostate Mammalia

BXXXXXXXXXXXXX

ABG61810;

RESULT 6 ABG61810

associated transcript in a cell from a patient. The method comprises contacting a biological sample from the patient. The method comprises contacting a biological sample from the patient with prostate cancer-associated polynucleotides (designated PC genes) that selectively hybridise to a sequence that is at least 80% identical to them. The prostate cancer-associated polynucleotide sequences are differentially expressed in prostate tumour tissue or in prostate cancer and are derived from the tissues of various organisms such as humans or other mammals from the tissues of various organisms such as humans or other mammals from mice, sheep and dogs). The methods of the invention are useful for disgnosting and treating prostate cancer in mammals. The prostate cancer as sesociated genes are useful for disgnosting or treating prostate cancer, as well as for identifying modulators of prostate cancer or agents that inhibit prostate cancer. The nucleic acid sequences are particularly useful in gene thorapy, as a vaccine or in antisense applications.

ABG61800-ABG61944 represent prostate cancer-associated proteins 120 180 240 61 DRGYIQMTPLNKTKTALGFLLWIVCWADLFYSFWERSRGIFLAPVFLVSPTLLGITTLLA 120 300 LWSLNKEDTSEQVVPVLVKAWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVEAL 300 IVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPD 360 9 9 present invention relates to methods of detecting a prostate cancer-TFLIQLERRKGVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS DRGYIQMTPLNKTKTALGFLLWIVCWADLFYSFWERSRGIFLAPVFLVSPTLLGITTLLA TFLIQLERRKGVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS MALRGFCSADGSDPLWDWNVTWNTSNPDFTKCFQNTVLVWVPCFYLWACFPFYFLYLSRH 1 MALRGFCSADGSDPLWDWNVTWNTSNPDFTKCFQNTVLVWVPCFYLWACFPFYFLYLSRH LLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD LWSLINKEDTSEQVVPVLVKNWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVEAL Gaps ö Length 1531; 0; Indels DB 5; 78.5%; Score 7860; D 100.0%; Pred. No. 0; tive 0; Mismatches Query Match Best Local Similarity 100. Matches 1531; Conservative Sequence 1531 AA; 241 301 유 ð ω

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Heinrich G, Kerb R;
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                                                                                      ABM35012 standard;
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The present invention describes the use of irinotecan (1) or its derivative for the preparation of a pharmaceutical composition for treating colorectal, gastric, lung, ovarian or pancreatic cancer, or malignant glioma in a subject having a genome with a variant allele which comprises a cytochrome p450, subfamily IIIA (nifedipine cytostatic activity. The therapeutic applications of (1) is improved, since it is possible to individually treat a subject with an appropriate derivative of (1). Therefore, undesirable, harmful or toxic effects are efficiently avoided. Unnecessary and potentially harmful treatment of those subjects who do not respond to the treatment with substances (nonresponders), as well as the development of drug resistances due to suboptimal drug dosing can be avoided. ACF62200 to ACF62751 and ABM34912 to ABM3613 represent sequences used in the exemplification of the present invention
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Cancer, CYP3A5; irinotecan, pharmaceutical, malignant glioma, cytochrome p450; subfamily IIIA; nifedipine oxidase; polypeptide
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Pred. No. 0;
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	gastric cancer; malignant glioma; MRP1; cytostatic.	n of a pharmaceutical g a genome with a rotein 1 se of irinotecan (1) or ical composition for ian or pancreatic gin 1 (MRP1) (1) or its derivative in or pancreatic gin 1 (composition for ins derivative in or pancreatic
KRLESVSRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRWLA VRLECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTYYLNWLVRMSSEMETNIVA VRLECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTYYLNWLVRMSSEMETNIVA VERLKEYSETEKEAPWQIQETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRHINVTINGG	NO:678. ancer; ancer;	23-JUL-2001; 2001EP-00117608. 24-MAY-2002; 2002EP-00011710. (EPID-) EPIDAUROS BIOTECHNOLOGIE AG. Heinrich G, Kerb R; WPI; 2003-354397/33. WPI; 2003-354397/33. WPI; 2003-54397/33.  WPI; 2003-54397/33.  WPI; 2003-54397/33.  WPI; 2003-54397/33.  WPI; 2003-54397/33.  WPI; 2003-54397/33.  WPI; 2003-54397/33.  WPI; 2003-54397/33.  WPI; 2003-54397/33.  WPI; 2003-54397/33.  WPI; 2003-54397/33.  WPI; 2003-54397/33.  WPI; 2003-54397/33.  WPI; 2003-54397/33.  Disclosure; SEQ ID NO 678; 100pp; English.  The present invention describes a method for the use of irinotecan (I) its derivative for the preparation of a pharmaceutical composition for treating colorectal, cervical, gastric, lung, ovarian or pancreatic cancer, or malignant glioma in a subject having a genome with a variant allele which comprises a multidarug resistance protein 1 (MRP1) polynucleocide (II). (I) has cytostatic activity. (I) or its derivative can be used for the preparation of a pharmaceutical composition for treating colorectal, cervical, gastric, lung, ovarian or pancreatic treating colorectal, cervical, gastric, lung, ovarian or pancreatic
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cancer, or malignant glioma in a subject, where the subject is (preferably African or Asian) or a mouse. The present sequence a sequence which is used in the exemplification of the present
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Use of irinotecan to treat cancer patient by determining if patient has variant alleles of UGT1A1 gene, administering increased/decreased amounts of irinotecan based on increased/decreased levels of UGT1A1 gene product.

SEQ ID NO 678; 107pp; English Disclosure;

The invention relates to the novel use of irinotecan to treat a patient suffering from cancer. This involves determining if the patient has one or more variant alleles of the UGT1A1 gene, and if the patient has one or more of such variant alleles, irinotecan is administered in an increased or decreased amount in comparison to the amount that is administered without regard to the patient's alleles in the UGT1A1 gene. The invention has cytostatic activity. A composition of the invention acts as a topologomerase I inhibitor. The method is useful for treating a patient, an animal e.g. mouse or a human, preferably African or Asian, suffering from cancer such as colorectal, cervical, gastric cancer, lung, ovarian, pancreatic cancer or malignant glioma. The present sequence is udes in the exemplification of the invention. 

Sequence 1531 AA

ô ö Length 1531; ö 7; DB Query Match 78.5%; Score 7860; I Best Local Similarity 100.0%; Pred. No. 0; Matches 1531; Conservative 0; Mismatches

MALRGFCSADGSDPLWDWNVTWNTSNPDFTKCFQNTVLVWVPCFYLWACFPFYFLYLSRH Н

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120 9 DRGYIOMTPLNKTKTALGFILWIVCWADLFYSFWERSRGIFLAPVFLVSPTLLGITTLLA MALRGECSADGSDPLWDWNVTWNTSNPDFTKCFQNTVLVWVPCFYLWACFFFYELYLSRH 61

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LLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD LLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD 181 181

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IVKSPOKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPD WQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSSTV 361 301 301

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WQSYFYTVLLFVTACLQTLVLHQYFHI CFVSGMRI KTAVI GAVYRKALVI TNSARKSSTV GEIVNLMSVDAQRFMDLATYINMIWSAPLQVILALYLLWLNLGPSVLAGVAVMVLMVPVN GEIVNLMSVDAQRFMDLATYINMIWSAPLQVILALYLLWLNLGPSVLAGVAVMVLMVPVN 361 421

AVMAMKTKTYQVAHMKSKDNRIKLANBILNGIKVLKLYAWELAFKDKVLAIRQEELKVLK AVMAMKTKTYQVAHMKSKDNRIKLMNEILINGIKVLKLYAWELAFKDKVLAIRQEELKVLK KSAYLSAVGTFTWVCTPFLVALCTFAVYVTIDENNILDAQTAFVSLALFNILRPPLNILP 541 481

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KSAYLSAVGTFTWVCTPFLVALCTFAVYVTIDENNILDAQTAFVSLALFNILRFPLNILP MVISSIVQASVSLKRLRIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTWARSDPPT 541 601 601

1200 900 960 840 780 MSGGKI SEMGSYQELLARDGAFAEFLRTYASTEQEQDAEENGVTGVSGPGKEAKQMENGM LVTDSAGKQLQRQLSSSSSYSGDISRHHNSTAELQKAEAKKEETWKLMEADKAQTGQVKL SVYWDYMKAIGLFISFLSIFLFMCNHVSALASNYWLSLWTDDPIVNGTQEHTKVRLSVYG SVYWDYWKAIGLFISFLSIFLFMCNHVSALASNYWLSLWTDDPIVNGTQEHTKVRLSVYG ALGISQGIAVFGYSMAVSIGGILASRCLHVDLLHSILRSPMSFFERTPSGNLVNRFSKEL KRLESVSRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRWLA ARALLRKTKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVL AVYSNADIYLPDDPLSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIV VERLKEYSETEKEAPMOIQETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRHINVTINGG VERLKEYSETEKEAPWQIQETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRHINVTINGG SLRENILFGCQLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGQKQRVSLAR MSGGKISEMGSYQELLARDGAFAEFLRTYASTEQEQDAEENGVTGVSGPGKEAKQMENGM LVTDSAGKOLOROLSSSSYSGDISRHHNSTAELOKAEAKKEETWKLMEADKAQTGQVKL ALGISQGIAVFGYSMAVSIGGILASRCLHVDLLHSILRSPMSFFERTPSGNLVNRFSKEL VRLECVGNCI VLFAALFAVISRHSLSAGLVGLSVSYSLQVTTYLNWLVRMSSEMETNI VA **EKVGIVGRIGAGKSSLTLGLFRINESAEGEIIIDGINIAKIGLHDLRFKITIIPQDPVLF** ARALLRKTKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVL SGSLRMNLDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLVCL DKGEIQEYGAPSDLLQQRGLFYSMAKDAGLV 1021 1021 1141 1141 1201 1261 1261 1321 1321 1381 1441 781 841 841 901 196 1081 1081 1381 1441 1501 721 721 781 901 961 1501 1201 g ò 셤 8 셤 δ 셤 8 g 8 g 8 8 8 8 & g ò ద ò 임 ઠે 유 ò 요 ò 쉱 ઠે

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Ą protein; 1531 standard; ADB96937

ADB96937;

(first entry) 04-DEC-2003 SEQ ID NO:678. seguence protein related Human MDR1

irinotecan; colorectal cancer; cervical cancer; gastric cancer; lung cancer; ovarian cancer; pancreatic cancer; malignant glioma; multidrug resistance 1; MDR1; cytostatic; human; Cyp3A5; MRP1; TOP1. 

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LNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAWIQND

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LNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAMIQND

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The invention relates to the novel use of irinotecan or its derivative for the preparation of pharmaceutical compositions for treating colorectal, cervical, gastric, lung, ovarian or pancreatic cancer, or malignant glioma in a subject having a genome with a variant allele which comprises a multidrug resistence 1 (MDR1) polynucleotide. A composition of the invention has cytostatic activity. The invention is useful for the preparation of pharmaceutical compositions for treating colorectal, cervical, gastric, lung, ovarian or pancreatic cancer, or malignant glioma in a subject (preferably human, more preferably African or Asian) or a mouse. The present sequence is used in the exemplification of the
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Matches 1531; Conservative 0; Mismatches
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                                                                                                                                                                                                                        New use of irinotecan for preparation of treating cancer in subject having genome multidrug resistance 1 polynucleotide.
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78.5%; Score 7860; D
Best Local Similarity 100.0%; Pred. No. 0;
Matches 1531; Conservative 0; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                New use of irinotecan for preparation of treating cancer in subject having genome multidrug resistance 1 polynucleotide.
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24-MAY-2002; 2002EP-00011710
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The invention discloses a composition comprising two or more isolated rate or human polynucleotides or a polynucleotide which represents a fragment, and early an allelic variation of the nucleic acid sequence. Also claimed are a vector comprising the nucleic acid sequence. Also claimed are a vector comprising the novel polynucleotide, a host cell comprising the vector, a method for identifying a nucleotide sequence of the discreminally regulated in an animal subjected to pain and a kit to perform the method, an array, a method for identifying an agent that increases or decreases the expression of the polynucleotide sequence contains a differentially expressed in neuronal tissue of a first animal subjected to pain, a method for identifying a compound which regulates the expression of a polynucleotide sequence which is differentially compound that regulates the activity of one or more of the composition, a method for identifying a compound or small molecule that regulates the compound or small molecule that regulates the control of referring a compound or small molecule that regulates the cutvity in an animal of one or more of the polypeptides given in the specification, a method for identifying a compound useful in treating pain and a pharmaceutical composition comprising the one or more completed for identifying a compound that composition comprising the one or more completed its activity is useful for preparing a medicament for treating pain (e.g. spinal segemental nerve injury (SNI)) in an animal (e.g. spinal segemental nerve injury (SNI)) in an animal (e.g. spinal segmental nerve injury (SNI)) in an animal (e.g. spinal segmental nerve injury (SNI)) in an animal (e.g. spinal segmental nerve injury (SNI)) in an animal (e.g. spinal segmental in every injury (SNI)) in an animal (e.g. spinal segmental in every injury (SNI)) in an animal (e.g. spinal segmental inerve injury (SNI)) in an animal (e.g. spinal segmental in every injury (SNI)) in an animal (e.g. spinal segmental indure its a human protein (shown in Tab
ARALLRKTKILVLDBATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVL 1500
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                                                                                                                    Costigan M;
                                                                                          DKGEIQEYGAPSDLLQQRGLFYSMAKDAGLV
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01-NOV-2001; 2001US-0346382P.
26-NOV-2001; 2001US-0333347P.
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The sequence data for this patent did not form part of the printed specification, but was obtained in electronic form directly from WIPO ftp.wipo.int/pub/published_pct_sequences.
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                                              The present invention relates to a purified polynucleotide or its fragment and comprises a sequence encoding multiple drug resistance proteins (WRRS) from Drosophila melanogaster or Anopheles gambiae. To polynucleotide is useful in developing effective insecticides. The present sequence represents human MRP1.
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MSGGKISEMGSYQELLARDGAFAEFLRTYASTEQEQDAEENGVTGVSGPGKEAKQMENGM
         SVYWDYMKAIGLFISFLSIFLFMCNHVSALASNYWLSLWTDDPIVNGTQEHTKVRLSVYG
                                                                   VERLKEYSETEKEAPWQIQETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRHINVTINGG
                                                                                                                                                                                                                                                                                                                                                                                                                                           growth, differentiation, blood endothelial cell; BEC; lymphatic endothelial cell; LEC; hereditary lymphoedema; VEGFR-3; lymphatic growth agent; VEGF-C; VEGF-D; antianglogenic; cytostatic; vasotropic; antiinflammatory; gene therapy; endothelial cell disorder; inflammatory disease; cancer metastasis; lymphatic system; human.
                             LVTDSAGKQLQRQLSSSSYSGDISRHHNSTAELQKAEAKKEETWKLMEADKAQTGQVKL
                                                                                        ALGISQGIAVFGYSMAVSIGGILASRCLHVDLLHSILRSPMSFFERTPSGNLVNRFSKEL
                                                                                                                              VERLKEYSETEKEAPWQIQETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRHINVTINGG
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                                                                                                                                                                                                                                                                                                             Human BEC/LEC-related protein sequence SegID853.
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This invention relates to a method of differentially modulating the growth or differentiation of blood endothelial cells (BEC) or lymphatic condoctives contacting endothelial cells with a composition comprises contacting endothelial cells with a composition comprising an agent that differentially modulates blood or lymphatic endothelial cells. Treating hereditary lymphoedema comprises (dentifying a human subject with lymphoedema and with a mutation in at least one allele of a gene encoding a LEC protein, where the mutation correlates with lymphoedema in human subjects, and with the proviso that correlates with lymphoedema in human subjects, and with the proviso that correlates with lymphoedema in human subjects, and with the proviso that correlates with lymphatic growth agent selected from VEGF-C or VEGF-D polypeptides and polynucleotides. The invention may be useful for the development of compounds with an antiangiogenic cytostatic, vasotropic or antiinflammatory activity or for gene therapy. The method is useful in modulating the growth or differentiation of blood endothelial cells or lymphoedema, in screening for an endothelial cells, in treating hereditary lymphoedema, in screening for an endothelial cell disorder or to predisposition to the disorder or in monitoring the efficacy or toxicity of a drug on endothelial cells. The agent is useful in manufacturing a medicament for the differential modulation of blood vessel endothelial cell or lymphatic vessel endothelial cell growth or differentiation. The lymphatic growth agent may also be used in manufacturing a medicament for the treatment of hereditary lymphoedema resulting from a mutation in a cell or lymphatic growth agent may also be used in manufacturing a cell or lymphatic growth agent may also be used in manufacturing a cell or lymphatic growth ageneses and cancer metastasis via the lymphatic system. The presents sequence is that of a human LeCF cell or lymphatic systems of the relatest such or the invention. The indexer using the source data given in
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Pred. No. 0;
0; Mismatches
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Best Local Similarity 100.
Matches 1530; Conservative
Makinen T,
                                                           WPI; 2003-876899/81.
N-PSDB; ADN95930.
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07-MAR-2003; 2003WO-US006900

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Searched:

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

## Database

PIR 79:\*
1: pir1:\*
2: pir2:\*
3: pir3:\*
4: pir4:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

		Description	miltidra resistan	σ	multidrug resistan	canalicular multid	protein F57C12.4 [	hypothetical prote		cadmium resistance	hypothetical prote	ABC transporter SP	ABC transporter At	glutathione S-conj	probable ABC trans	hypothetical prote	probable membrane	probable ABC trans	glutathione-conjug	ABC transporter-li	hypothetical prote	multi resistance p	MRP-like ABC trans	multi resistance p	ylurea rece				sulfonylurea recep	sport	probable membrane
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de	Query	Match	78.4		35.8	35.0	32.8	32.2	31.9	28.3	27.3	25.4	23.8	23.5	23.2	23.1	22.9	22.6	22.3	22.3	21.4	21.4	21.4	21.3	21.3	21.2	21.1	21.0	20.9		20.6
		Score	7849	4484 5	3587	3507.5	3289	3225	3195.5	2838	2732	2548	2384.5	2356.5	2326	2312	2294.5	2263.5	2238.5	2230	2144.5	2144.5	2140	2131.5	2129	2123	2109	2104.5	2098	ď	2062.5
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## ALIGNMENTS

RESULT 1

DVHUAR	
multidrug resistance protein (cell line H69AR) - human	
N;Alternate names: multidrug resistance-associated protein (MRP)	
C; Species: Homo sapiens (man)	
C;Date: 30-Jun-1993 #sequence revision 05-Dec-1998 #text change 19-Jan-2001	
C; Accession: A44231; A37495 _	
R; Cole, S.P.C.; Bhardwaj, G.; Gerlach, J.H.; Mackie, J.E.; Grant, C.E.; Almquist, K.C.	
Science 258, 1650-1654, 1992	
A, Title: Overexpression of a transporter gene in a multidrug-resistant human lung cance.	-
A; Reference number: A44231; MUID:93088080; PMID:1360704	
A; Accession: A44231	

tant human lung cance 1;Status: nucleic acid sequence not shown

A; Molecule type: mRNA \*\*
\*\*Residues: WARPTRSCRED FATPTSPARTRSSCGCLVFTSGPV', 50-1531 <CO1>
\*\*A; Residues: WARPTRSCRED FATPTSPARTRSSCGCLVFTSGPV', 50-1531 <CO1>
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A)Status: not compared with conceptual translation
A)Status: not compared with conceptual translation
A)Status: 1-60 <CO3A)Status: 1-60 <CO3A)Status: 1-60 <CO3A)A)Cross-references: GB:L05628; NID:g1835658
A)Cross-references: GB:L05628; NID:g1835658
A)Note: sequence extracted from NCBI backbone (NCBIP:131929)

A Gene: GDB:NRP
A;Cross-references: GDB:136335; OMIM:158343
A;Cross-references: GDB:136335; OMIM:158343
A;App position: 16p13.1-16p13.1
C;Superfamily: human multidarug resistance protein cMOAT2; ATP-binding cassette homology
C;Keywords: antibiotic resistance; ATP; duplication; nucleotide binding; P-loop; transm
F;61-844/Domain: ATP-binding motif E (P-loop)
F;778-792/Region: nucleotide-binding motif B
F;788-792/Region: nucleotide-binding motif B

F:1310-1503/Domain: ATP-binding cassette homology <ABC2>F:1327-1334/Region: nucleotide-binding motif A (P-loop)F:1450-1454/Region: nucleotide-binding motif B

Gaps ö Length 1531; 2; Indels DB 1; Query Match
78.4%; Score 7849; D
Best Local Similarity 99.9%; Pred. No. 0;
Matches 1529; Conservative 0; Mismatches

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9 9 1 MALRGFCSADGSDPLWDWNVTWNTSNPDFTKCFQNTVLVWVPCFYLWACFPFYFLYLSRH MALRGFCSADGSDPLWDWNVTWNTSNPDFTKCFQNTVLVWVPCFYLWACFPFYFLYLSRH 유 ઠ

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- " ATT " of Brillian

US-10-665-283-8 10016 score: Perfect

<sup>1</sup> MALRGFCSADGSDPLWDWNV.....RSVAVAKAKPKFSISPDSLS 1947 Sequence:

BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 200000000

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QY 1201 VRIECVGNCIVLFAALFAVISRHSLSAGLVQLSVSYSLQVITYLNMLVRMSSEMEFNIVA 1260  1201 VRLECVGNCIVLFAALFAVISRHSLSAGLVQLSVSYSLQVITYLNMLVRMSSEMEFNIVA 1260	QY 1261 VERLKEYSETEKEAPWQ1QETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRHINVTINGG 1320	Qy 1321 EKVGIVGRIGAGKSELTLGLERINESAEGEIIIDGINIAKIGLHDIRFKITIIIPQDPULF 1380	OY 1381 SGSLRWALDPPSQYSDEBVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGGRQLVCL 1440	OY 1441 ARALLEKTKILVLDEATAAVDLETDDLIQSTIRTOFEDCTVLTIAHRLNTIMDYTRVIVL 1500   1441 ARALLEKTKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVL 1500   1441 ARALLEKTKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVL 1500	Oy 1501 DKGEIQEYGAPSDLLQQRGLPYSMAKDAGLV 1531 	RESULT 2 JE0336 canalicular multispecific organic anion transporter - human	C.Species: Homo sapiens (man) C.Species: OS-Peb-1999 #sequence_revision 05-Feb-1999 #text_change 09-Jul-2004 C.Accession: JE0336 R.JCchiumi, T.; Hinoshita, E.; Hada, S.; Nakamura, T.; Tanaka, T.; Toh, S.; Furnik	organic anion	A.Accession: JE0336 A.Status: preliminary A.Molecule type: mRNA A.Residues: 1-1527 < UCH>	A;Cross-references: UNIPROT:O15438; GB:AF083552 C;Superfamily: human multidrug resistance protein cMOAT2; ATP-binding cassette h C;Keywords: ATP F;1306-1499/Domain: ATP-binding cassette homology <abc2></abc2>	Query Match 44.8%; Score 4484.5; DB 2; Length 1527; Best Local Similarity 56.6%; Pred. No. 3.2e-293; Matches 871; Conservative 261; Mismatches 372; Indels 35; Gaps 9;	QY 8 SADGSDPLWDWNVTWNTSNPDFTKCFQNTVLVWVPCFYLWACFPFYFLYLSRHDRGY1QM 67   1	QY 68 TPLNKTKTALGFLLMIVCWADLFYSFWERSRGIFLAPVFLVSPTLLGITTLLATFLIQLE 127		OY 188 LSCPSDRSPLFSETIHDPNPCPBSSASFLSRITFWWITGLIVRGYRQPLEGSDLWSLANKE 247	QY         248 DTSEQVVPVLVKOWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVBALIVKSPQK 307           DD         247 DRSQWVVQQLLEAWRKQEKQTARHKASAAAPGKNASGBEDEVLLGARRRP 294	OY 308 EWNPSLFKVLYKTFGPYPLMSFPFKALHDLMMFSGPOILKLLIKFVNDTKAPDWQGYFYT 367  Db 295 R-KPSFLKALLATFGSSFLISACFKLIQDLLSFINPQLLSILIRFISNPMGFSWWGFLVA 353
y 121 TFLIQLERRKGVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS 180	181 LLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD	241 LWSLNKEDTSEQVVPVLVKNWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANESVEAL	301 IVKSPQKEWNPSLPKVLYKTPGPYFLMSFPFKAIHDLMMFSGPQILKLLIKFVNDTKAPD	361 WGGYFYTVLLEVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSSTV 	421 GEIVNLMSVDAQREMDLATYINMINSAPLOVILALYLLMLNLGPSVLAGVAVMVLMVPVN 	V 481 AVMAMKTKTYQVAHMKSKDNRIKLANGIKVLKIYAWELAFKDKVLAIRQBELKVLK 540 	V 541 KSAYLSAVGTFTWVCTPFLVALCTFAVYVTIDENNILDAQTAFVSLALFNILRFPLNILP 600	601 MVISSIVQASVSLKKLRIFISHEELEPDSIERRPVKDGGGTNSITVRNATFTWARSDPPT 660	661 INGITESIPECALVAVVGOVGCGKSSLLSALLAEMDKVEGHVAIKGSVAXVPOQAWIQND 720	721 SLRENILFGCQLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGGKQRVSLAR 780 	781 AVYSNADIYLFDDPLSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIV 840 	841	901 LVTDSAGKQLQRQLSSSSYSGDISRHHNSTAELQKAEAKKEETWKLMEADKAQTGQVKL, 960 	961 SVYMDYMKAIGLFISFLSIFLFMCNHVSALASNYMLSLWTDDFIVNGTQEHTKVRLSVYG 1020 	1021 ALGISQGIAVFGYSMAVSIGGILASRCLHVDLLHSILRSPMSFFERTPSGNLVNRFSKEL 1080 	1081 DTVDSMIPEVIKMEMGSLENVIGACIVILLATPIAAIIIPPIGLIYFFVQRFYVASSRQL 1140 	1141 KRLESVSRSPVYSHPNETLIGVSVIRAFEBORRFIHQSDLKVDENQKAYYPSIVANRMIA 1200 
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. E.; Haga, S.; Nakamura, T.; Tanaka, T.; Toh, S.; Furukawa, M.; ommun. 252, 103-110, 1998 ... iovel human canalicular multispecific organic anion transporter, OT:015438; GB:AF083552 idrug resistance protein cMOAT2; ATP-binding cassette homology SQYSDEEVWISLELAHLKDFVSALPDKLDHECAEGGENLSVGORQLVCL 1440 VLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVL 1500 FILMIVCWADLFYSFWERSRGIFLAPVFLVSPTLIGITTLIATFLIGLE 127 SETIHDPNPCPESSASFLSRITFWWITGLIVRGYROPLEGSDLWSLNKE 247 JEWINALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFSLLLIQLV 187 KRAPWQIQETRPPSSWPQVGRVEFRNYCLRYREDLDFVLRHINVTINGG ence\_revision 05-Feb-1999 #text\_change 09-Jul-2004 KEAPWOIQETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRHINVTINGG GKSSLTLGLFRINESAEGEIIIDGINIAKIGLHDLRFKITIIPQDPVLF 44.8%; Score 4484.5; DB 2; Length 1527; 56.6%; Pred. No. 3.2e-293; Indels 35; Gaps tive 261; Mismatches 372; Indels 35; Gaps organic anion transporter - human inding cassette homology <ABC2> 6; MUID:99032812; PMID:9813153 SDLLOORGLEYSMAKDAGLY 1531 

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Accession: S.1264

A,Roceule type: MRNA

A,Residues: 1-1545 < KOE>
A,Gross-references: EMBL:X96395; NID:g1507819; PIDN:CAA65259.1; PID:g1514568

A,Cross-references: EMBL:X96395, 1996
A,Title: cDNA cloning of the hepatocyte canalicular isoform of the multidrug resistance
A,Reference number: S71839; MUID:96279006; PMID:8662992
A,Rocession: S71840
A,Reference number: S71839; MUID:96279006; PMID:8662992
A,Rocession: S71840
A,Reference number: S71839; MUID:96279006; PMID:8662992
A,Roceule type: mRNA
A,Redidues: acid sequence not shown
A,Rolecule type: mRNA
A,Rociule type: mucleotide binding P-loop; transmembrane protein
F,654-837/Rocion: nucleotide-binding cassette homology A&BC2>
F,1317-1510/Domain: ATP-binding cassette homology A&BC2>
F,1317-1510/Domain: mucleotide-binding motif A (P-loop)
F,1317-1510/Domain: mucleotide-binding motif A (P-loop)
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FFISYGFQILILIFSARSEN-----NESSNNPSSIASFLSSITYSWYDSIILKGYKR
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LEKFCN------STFWNSSFLDSPEADLPLCFEQTVLVWIPLGFLWLLAPWQLLHV
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                                                                                                                                                                              MDYTRVIVLDKGEIQEYGAPSDLLQQRGLFYSMAKDAGL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             C;Species: Homo sapiens (man)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999
C;Accession: S71841; 871840
R;Koenig, J:; Keppler, D.
R;Koenig, J:; Keppler, D.
A;Reference number: S71841
A;Reference number: S71841
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59 Db 1 56	519 QY 1520 LFYSWAKDAGL 1530	579 RESULT 4 S71839 canalicular multidrug resistance pro	639 C. Date: 10-Sep-1999 #sequence_revision C. Accession: 571899 #sequence_revision C. Accession: 57189 P. D. Date: 10-Sep-1999 #sequence_revision C. Accession: 57189 P. D. Date: 10-Sep-1999 #sequence_revision C. Accession: 57189 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 10-Sep-1999 P. Date: 1		A;Status: preliminary, nucleic acid s A;Nolecule type: mRNA A;Nolecule type: mRNA A;Nolecule type: mRNA A;Cross.references: UNIPROT: 061120; F	819 C;Superfamily: human multidrug resist C;Keywords: ATP; glycoprotein; nuclec F;100-124/Domain: transmembrane #stat F;127-151/Domain: transmembrane #stat	878 F:160-187/Domain: transmembrane #stat F:305-329/Domain: transmembrane #stat F:312-121/Domain: transmembrane #stat 872 F:431-451/Domain: transmembrane #stat	928 F;456-476/Domain: transmembrane #stat F;336-564/Domain: transmembrane #stat F;574-602/Domain: transmembrane #stat 927 F;650-833/Domain: ATP-binding cassett	P:667-674/Region: nucleotide-binding F:966-994/Domain: transmembrane #stat F:1018-1046/Domain: transmembrane #st F:1104-1132/Domain: transmembrane #st	1039 F;1203-1228/Domain: transmembrane #stat F;1313-1256/Domain: ATP-binding cassett F;13130-1337/Region: nucleotide-binding F;6,1007,1010,1011/Binding site: carbob	1099 Query Match Best Local Similarity 46.2%; Pred. 1107 Matches 721; Conservative 301; Mi	159	1219 Qy 64 YIQMTPLNKTKTALGFLLWIVCWAD 1227 Db 59 SITKFYLAKQVFVVFLJILAAID	279 QY 124 IQLERRKGVQSSGIMLT-FWLVALV 1	9 Qy 183 5 Db 175	1399 QY 243 SLNKEDTSEQVVPVLVKN 1406 Db 227 DIDEGFKTRSVTSKFEAAMTKDLQK	1459 Qy 291 VDANEEVEALIVKSPQKEWNPSLFK :: ::	1519 Qy 351 KFVNDTKAPDWQGYFYTVLLFVTAC
400 IGAVYRKALVITNSARKSSTVGEIVNLMSVDAQRFMDLATYINNIWSAPLQVILALYLLM 4 ::  :   :	460 LNIGPSVLAGVAVMVLMVPVNAVMAMKTKTYQVAHMKSKDNRIKLMNEILNGIKVLKLYA 5 	520 WELAFKDKVLAIRQEELKVLKKSAYLSAVGTFTWVCTPFLVALCTFAVXVTIDENNILDA S			VPQQAWIQNDSLRENILFGCQLEEPYYRSVIQACALLPDLEILPSGDRT     :    :    :			879 EENGVIGVSGPGKEAKQMENGMLVTDSAGKQLQRQLSSSSSYSGDISRHH 93 				1100 NVIGACIVILLATPIAALIIPPLGLIYFFVQRFYVASSRQLKRLESVSRSPVYSHFNETL 11 	1160 LGVSVIRAFEEGERFIHQSDLKVDENQKAYYPSIVANRWLAVRLECVGNCIVLFAALFAV 121  :         -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -      -      -      -      -      -      -      -      -     -      -      -      -      -      -      -      -      -      -      -      -      -       -      -      -      -      -      -      -      -      -      -      -      -      -      -      -      -      -       -      -       -	1220 ISRHSLSAGLVGLSVSYSLQVTTYLNMLVRMSSEMETNIVAVERLKEYSETEKEAPWQ1Q 1277.	1280 ETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRHINVTINGGEKVGIVGRIGAGKSSLTLG 133:	1340 LFRINESABGBIIIDGINIAKIGLHDLRFKITIIPQDPVLFSGSLRWKLDFFSQYSDEBV 139:	1400 WTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQIVCLARALLRKWKILVLDEATAA 145 	1460 VDLETDDLIQSTÍRTQFEDCTVLTIAHRLNTIMDYTRVIVLDKGEIQEYGAPSDLLQQRG 15
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Kartenbeck, J.; Spring, H.; Horie, T.; Keppler, D.
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21;
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CLQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVI 410

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:	FTWARSDPFTLNGITFSIDGASVSUKLEKKIJGGDUDISAIKKVSNRFDKANK FTWARSDPFTLNGITFSIDEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAIK	THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVING AND THE CONTROL OF SERVIN
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homology
                   1412 RSFVSGLQLGLLSEVTEGGDNLSIGQRQLLCLGRAVLRKSKILVLDEATAAVDLETDSLI 1471
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A;Map position: X
C;Superfamily: human multidrug resistance protein cMOAT2; ATP-binding cassette
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         protein F57C12.4 [imported] - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;bacesion: E89447.2001 #sequence_revision 10-May-2001 #text_change 09-Jul-2004
C;Accession: E89467 E88 Sequencing Consortium.
R;anonymous, The C. elegans Sequencing Consortium.
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                                                                 GL 1530
                                                                                     GI 1533
                                                                 1529
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988 SALASNYWLSLWTDD-PIVNGTQEHTKVRLSVYGALGISQGIAVFGYSMAVSIGGILASR 1046
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                                                  VSLARAVYSNADIYLFDDPLSAVDAHVGKHIFENVIGPK-GMLKNKTRILVTHSMSYLPQ
                                                                                                                             SDPPTLNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQA
            WIQNDSLRENILFGCQLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGQKQR
                                                                                                                 VDVIIVMSGGKISEMGSYQELLARDGAFAEFLRTYASTEQEQDAEENGVTGVSGPG----
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T21219

hypotherical protein F21G4.2 - Caenorhabditis elegans
C;Species: Caenorhabdits elegans
C;Species: Caenorhabdits elegans
C;Species: 15-Oct-1999 #sequence\_revision 15-Oct-1999 #text\_change 09-Jul-2004
C;Accession: T21219; T24002
R;Mortimore, B.
Ribortimore, B.

628

EMBL: Z81016, PIDN: CAB02667.1; GSPDB: GN00028; CESP: F2 cassette homology A;Reference number: 219392
A;Accession: T21219
A;Accession: T21219
A;Accession: T21219
A;Residues preliminary; translated from GB/EMBL/DDBJ
A;Residues: 1-1573 «MIL»
A;Residues: 1-1573 «MIL»
A;Cross-references: UNIPROT:093552; EMBL:281016; PIDN:CAB02667.1; GSPDB:GN00028; CA;Experimental source: clone F2164
B;Kershaw, J
Submitted to the EMBL Data Library, March 1995
A;Accession: T24002
A;Accession: T24002
A;Accession: T24002
A;Accession: T24002
A;Reference number: Albara Library, March 1995
A;Accession: T24002
A;References: EMBL:248621; PIDN:CAA88549.1; GSPDB:GN00028; CESP:F21G4.2
A;Cross-references: EMBL:248621; PIDN:CAA88549.1; GSPDB:GN00028; CESP:F21G4.2
C;Genetics: 310 370 26 146 147 VCALAILR---SKIMTALKEDAQVDLFRDITFYVYFSLLLIQLVLSCFSDRSPL-FSETI 202 211 262 271 387 430 431 AQRFMDLATYINMIWSAPLQVILALYLLWLNLGPSVLAGVAVMVLMVPVNAVMAMKTKTY 490 507 550 272 KOSKKFEETAARRIGSN--ASRTNRRTSSNDTTPLLNDQSTDDYGSVPAGQSTQK--M 327 610 667 567 VSNRRLKEFLVSEELNVEAIDHR-ARD--NNDVICLKEACLSWESAEHQPVPTLTNISFS 684 47 98 16 A;Map position: X A;Introns: 21/3; 122/3; 197/3; 276/1; 654/1; 911/1; 1067/1; 1472/2; 1537/2 C;Superfamily: human multidrug resistance protein cMOAT2; ATP-binding casse 212 AARNPSPETTSSFLNRITMWWFNSLCSLGVKKPLEVSDLYSLNEADTSNLLVPKWYNLWD QVAHMKSKDNRIKLMNEILNGIKVLKLYAWELAFKDKVLAIRQEELKVLKKSAYLSAVGT 99 GIFLAPVF-----LVSPTLLGITTLLATFLIQLERRKGVQSSGIMLTFWLVAL HDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSDLWSLNKEDTSEQVVPVLVKNWK KECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVEAL------IVKSPQKEWN 311 PSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPDWQGYFYTVLL 371 FVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSSTVGEIVNLMSVD VDRPQQITPQTMQYWSNPPQIGLALFLLFQQLGVSVFSGVAVWVLLFPINFVITMIIRKW 3 LRG---FCSADGSDPLWDWNVTWNTSN-PDFTKCFQNTVLVWVPCFYLWACFPFYFLYLS RHDRGYIQMTPLNKTKTALGFLLWIVCWADLFYSF-----WER-----SR FTWVCTPFLVALCTFAVYVTIDENNILDAQTAFVSLALFNILRFPLNILPMVISSIVQAS VSLKRLRIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTW--ARSDP-PTLNGITFS Gaps Indels 134; Length 1573; Query Match 32.2%; Score 3225; DB 2; Best Local Similarity 42.4%; Pred. No. 2.5e-208; Matches 685; Conservative 305; Mismatches 490; Gene: CESP:F21G4.2 59 48 203 263 388 448 508 551 611 491 셤 à g ò 셤 ò g g ò ò ò 셤 d 셤 ð ò ò ద 셤 ò ઠે 셤 ò 셤

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                                                                                                                                                                 LDHECAEGGENLSVGQRQLVCLARALLRKTKILVLDEATAAVDLETDDLIQSTIRTQFED 1478
                                                                                                                               ------DKAQTGQVKLSVYWDYMKAIGLFISFLSIFLFMCNHVSALASNYWLSLWTDDP 1003
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                                                                                                                                      TRQLTGTERVETGRVKAMDTYYKYFGAMGMSIAVLFVLGMTTSTIFSMGRNLMLTDWSNDN
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                                                                                                                                                                                                                    AKIGLHDLRFKITIIPQDPVLFSGSLRMNLDPFSQYSDEEVWTSLELAHLKDFVSALPDK
        EMGSYQELLARDGAFAEFL-----RTYASTEQEQDAEENGVTGVSGPGKEAKQMEN
                                                                                    | IPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAMIQNDSLRENIL
                                                   IYLFDDPLSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIVMSGGKIS
                                                                                                      GMLVTDSAGKQLQRQLSSS--SSYSGDISRHHNSTA---ELQKAEAKKEETWKLMEA---
                                                                                                                                                                                 FGCQLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGQKQRVSLARAVYSNAD
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                             multidrug resistance-associated protein homolog MLP-1 - rat
C;Species: Rattus norvegicus (Norvay rat)
C;Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 09-Jul-2004
C;Accession: T42216
R;Hirohashi, T.; Suzuki, H.; Ito, K.; Ogawa, K.; Kume, K.; Shimizu, T.; Sugiyama, Y.
Mol. Pharmacol. 53, 1066-1075, 1998
A;Title: Hepatic expression of multidrug resistance-associated protein-like proteins
A;Reference number: Z22081; MUID:98279126; PMID:9614210
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A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Molecule type: LOSO \*HIR>
A;Residues: 1-1502 \*HIR>
A;Cross-references: UNIPROT: 088269; EMBL: AB010466; NID: g3242457; PIDN: BAA28954.1; PID: GASERTIMENTAL SOUNCE: Strain Sprague-Dawley; liver
C;Superimental sounce: strain Sprague-Dawley; liver
C;Superfamily: human multidrug resistance protein cMOAT2; ATP-binding cassette homology 'n 135 195 435 495 479 555 615 599 675 658 735 718 795 778 196 315 299 359 419 855 838 909 79 20 WNQTEQEPVAYHLINLCFLRAAGSWVPPMYLWVLGPIYLLYIHRHGCCYLRMSRLFKIKM 300 AIWRVFRSTFLLGTLSLVISDARRAVPKLLSLFLEFMGDLESSAWTGWLLAVLMFLSAC STFLVALVVFAVHTLVAEDNAMDAEKAFVTLTVLSILNKAQAFLPFSVHCLVQARVSFDR 76 ALGFLLWIVCWADLFYSFWERSRGIFLAPVFLVSPTLLGITTLLATFLIQLERRKGVQSS GIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFSLLLIQLVLSCFSDRS LQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSSTVGEIVNLMSVDAQRFM 360 LQTLFEQQYMYRVKVIQMRLRTAITGLVYRKVIVLSSGSRKSSAAGDVVNLVSVDVQRLV KSKDNRIKLIMBILINGIKVLKLYAWELAFKDKVLAIROEELKVLKKSAYLSAVGTFTWVC LARDGAFAEFLRTYASTEQEQDAEENGVT-----GVSGPGKEAKQMENGMLVTDSAGKQ VLVKNWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVEALIVKSPQKEWNPSLPK DLATYINMIWSAPLQVILALYLLWLNLGPSVLAGVAVMVLMVPVNAVMAMKTKTYQVAHM TPFLVALCTFAVYVTIDENNILDAQTAFVSLALFNILRFPLNILPMVISSIVQASVSLKR LRIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTWARSDPPTLNGITFSIPEGALVA YYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGQKQRVSLARAVYSNADIYLFDDPL SAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIVMSGGKISEMGSYQEL 22 WNTSNPD-----FTKCFQNTVLVWVPCFYLWACFPFYFLYLSRHDRGYIQMTPLNKTKT VLYKTFGPYFLMSFFFKAIHDLMMFSGPQ1LKLLIKFVNDTKAPDWQGYFYTVLLFVTAC 51; Length 1502, Indela DB 2; .2e-206; es 525; ed. No. 2.2e<sup>.</sup> Mismatches 31.9%; Score 3195.5; 43.1%; Pred. No. 2.2e Best Local Similarity 43.1%; Pr Matches 655; Conservative 290;

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82 BIAF----VSLASLNISKEBABN---FTIVSQYASTMLSLFVALALHWIEYDR--SVVAN 132
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ------NPSLSWAICRTFGSKWLLAAFFKAIHDVLAFTQPQLLRILIKFVTDYNS 320
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              protein; yeast
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                                                                                                                                                                                                                                                                                               Length 1515;
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                  Viverance Air; increating binding; F-1009; transmembrane F;287-308/Domain: transmembrane #status predicted <TM1>
F;245-366/Domain: transmembrane #status predicted <TM2>
F;345-446/Domain: transmembrane #status predicted <TM3>
F;446-467/Domain: transmembrane #status predicted <TM3>
F;534-555/Domain: transmembrane #status predicted <TM6>
F;534-559/Domain: transmembrane #status predicted <TM6>
F;646-829/Domain: ATP-binding cassette homology <ABC1>
F;646-829/Domain: ATP-binding cassette homology <ABC1>
F;646-829/Domain: transmembrane #status predicted <TM7>
F;951-972/Domain: transmembrane #status predicted <TM7>
F;951-972/Domain: transmembrane #status predicted <TM9>
F;1068-1008/Domain: transmembrane #status predicted <TM9>
F;1068-1113/Domain: transmembrane #status predicted <TM9>
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                                                                                                                                                                                                                                                                                             1 28.3%; Score 2838; DB 1; Similarity 40.3%; Pred. No. 2.8e-182; Conservative 295; Mismatches 495;
                                                                                                                                                                                                                                                                                                                             632;
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Best Local S:
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-RPRPSDAAPVKGS----TSEAQMEPSLDDVEVTGLTAGEDSVQYGRVKSATYLSYLRA 940
                                 IGLFISFLSIFLFMCNHVSALASNYWLSLWTDDFIVNGTQEHTKVRLSVYGALGISQGIA
                                                   VFGYSMAVSIGGILASRCLHVDLLHSILRSPMSFFERTPSGNLVNRFSKELDTVDSMIPE
                                                                                                                  VIKMFMGSLFNVIGACIVILLATPIAAIIIPPLGLIYFFVQRFYVASSRQLKRLESVSRS
                                                                                                                                                                             PVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRWLAVRLECVGNC
                                                                                                                                                                                                                                             cadmium resistance protein YCF1 - yeast (Saccharomyces cerevisiae)
N/Alternate names: protein YD9302.11c; protein YDR135c
C;Species: Saccharomyces cerevisiae
C;Species: 10-Sep-1999 #sequence revision 10-Sep-1999 #text_change 09-Jul-2004
C;Accession: S51863; A55352; S50233
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216/1; 258/2; 384/3; 470/3; 549/1; 644/3; 757/3; 764/2; resistance protein cMOAT2; ATP-binding cassette homology

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C;Genetics:
A;Gene: CESP:E03G2.2
A;Map position: X
A;Introns: 73/3; 113/3; 176/1;
C;Superfamily: human multidrug
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                                                                                                             SWPQVGRVEFRNYCLRYREDLDFVLRHINVTINGGEKVGIVGRTGAGKSSLTLGLFRINE
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                                                                                                                                            LQKAEAKKEETWKLMEADKAQTGQVKLSVYWDYMKA----IGLFISFLSIFLFMCNHVS
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          SGDRTEIGEKGVNLSGGQKQRVSLARAVYSNADIYLFDDPLSAVDAHVGKHIFENVIGPK
                                                     GMLKNKTRILVTHSMSYLPQVDVIIVMSGGKISEMGSYQELLA-RDGAFAEFLRTYASTE
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R;McMurray, A.
Bubmitted to the EMBL Data Library, November 1995
A;Reference number: 219275
A;Reference number: 219275
A;Reference number: 219275
A;Reference number: 219275
A;Reference number: 219275
A;Reference type: DNA
A;Residues: 1-1398 cMIL>
A;Residues: 1-1398 cMIL>
A;Coss-references: UNIPSOT:Q19048; EMBL:Z68113; PIDN:CAA92148.1; GSA;Experimental source: clone E03G2
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EESG-----GEENSDILPGSIASGSRMSRLSR-LSK-----ISRKKSKSSIVEK-- 804
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Length 1398
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Query Match 27.3%; Score 2732; DB 2; Best Local Similarity 41.1%; Pred. No. 3.4e-175; Matches 591; Conservative 287; Mismatches 472;
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464

524 471

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990 LASNYWLSLWTDDPIVNGTQEHTKVRLSVYGALGISQGIAVFGYSMAVSI-GGILASRCL 1048
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                                                                                                                                        SKVDANBEVBALIVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKL 348
                                                                                                                                                             349 LIKFVNDIKA----PDWQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVY 404
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NyAlternate names: metal resistance protein homolog
C;Species: Schizosaccharomyces pombe
C;Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 09-Jul-2004
C;Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 09-Jul-2004
C;Date: Schizosaccharomyces pombe
C;Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 09-Jul-2004
C;Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 09-Jul-2004
C;Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 09-Jul-2004
C;Accession: T38712
A;Roblecule type: DNA
A;Residues: 1-1478 cMUR>
A;Residues: 1-1478 cMUR>
A;Residues: 1-1478 cMUR>
A;Roblecule type: DNA
A;Residues: 1-1478 cMUR>
A;Roblecule type: DNA
A;Roblecule type: DNA
A;Reference number: Z17323; MUID:98162722; PMID:9501991
A;Title: Identification of open reading frames in Schizosaccharomyces pombe cDNAs.
A;Reference number: Z17323; MUID:98162722; PMID:9501991
A;Title: Identification of open reading frames in Schizosaccharomyces pombe cDNAs.
A;Reference number: Z17323; MUID:98162722; PMID:9501991
A;Title: Identification of open reading frames in Schizosaccharomyces pombe cDNAs.
A;Residues: 1043-1286.
A;Accession: T43244
A;Residues: BMBL:D89231; NID:91749669; PIDN:BAA13892.1; PID:91749670
C;Genetics:
C;Genetics:
A;Map position: 1
C;Superfamily: human multidrug resistance protein cMOATZ; ATP-binding cassette homology
C;Keywords: ATP; transmembrane protein
ILRSPMSFFERTPSGNLVNRFSKELDTVDSMIPEVIKMFWGSLFNVIGACIVILLATPIA 1115
                                                                                   980 IAIIIPVFIIYFFVLKYSIKSTRQLQRIASLTRSPIFSNFSBTLQGISTVRAFQWSDEFV 1039
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A; Reference number: S64761
A; Accession: S64763
A; Molecule type: DM
A; Residues: 1-1559 <GOF>
A; Cross-references: EMBL: Z73120; NID: 91360184; PIDN: CAA97460.1; PID: 91360185; GSPDB: GN00
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A;Residues: 1-1559 <MID>
A;Cross-references: UNIPROT:P14772; EMBL:Z73120; NID:g1360184; PIDN:CAA97460.1; PID:g136
A;Experimental source: strain S288C
R;Goffeau, A.; Purnelle, B.
submitted to the Protein Sequence Database, May 1996
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R;Boy-Marcotte, E.; Damak, F.; Camonis, J.; Garreau, H.; Jacquet, M.
Gene 77, 21-30, 1989
A;Ittle: The C-terminal part of a gene partially homologous to CDC25 gene suppresses the
A;Reference number: PS0041; MUID:89306677; PMID:2545538
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                                                                                                                                                                        A---VSIGGILASRCLHVDLLHSILRSPMSFFERTPSGNLVNRFSKELDTVDSMIPEVIK 1092
                                                                                                                                                                                                                                                                  MFMGSLFNVIGACIVILLATPIAAIIIPPLGLIYFFVQRFYVASSRQLKRLESVSRSPVY 1152
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       STIAESIHGASSIRAFDKTERTTTALSTNVDKFAQCRYLSHMSNRWLATRLELLGNTCVL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       probable membrane protein YLL015w - yeast (Saccharomyces cerevisiae)
NyAlternate names: hypothetical protein A255; hypothetical protein L
C;Species: Saccharomyces cerevisiae.
C;Date: 10-Sep-1999 #sequence revision 10-Sep-1999 #text_change 09-07
C;Accession: S64757; S64763; PS0041; S69391; S70560
R;Miosga, T.; Zimmermann, R.K.
Submitted to the Protein Sequence Database, May 1996
A;Reference number: S64743
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A; Molecule type: DNA
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DEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLVCLARALLRKTKILVLDE
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C;Species: Caenorhabditis elegans
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 09-Jul-2004
C;Accession: T27408
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23.1%; Score 2312; DB 2; Length 11
Best Local Similarity 42.5%; Pred. No. 4.8e-147;
Matches 491; Conservative 228; Mismatches 381; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ISEMGSYQELLAR---DGAFAEFLRTYAS----TEQEQDAEENGVTGVSGPGKEAKQME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -----MEADKAQTGQVKLSVYWDYMKAIGLFISFLSIFLFM-CNHVSALASNYWLSLW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SESNEKNGSNERVWMFVGVYSLIGVAS--AAFNNLRSIMMLLYCSIRGSKKLHESMAKSV
                                                                                                                                                                                                                                                                                  WELAFKDKVLAIRQE-ELKVLKKSAYLSAVGTFTWVCTPFLVALCTFAVYVTIDENNILD
                                                                                                                                                                                                                                                                                                              PAIVFPSLSLFWILNSAIXSVPSMINTIIETSVSMERLKSFLLSDEIDDSFIERIDPSAD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GGGINSIIVRNATFIW-------ARSDPPTLNGII-----FSIPEGALV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LFGCQLEEPYYRSV1QACALLPDLE1LPSGDRTE1GEKGVNLSGGQKQRVSLARAVYSNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DIYLFDDPLSAVDAHVGKHIFENV-IGPKGMLKNKTRILVTHSMSYLPQVDVIIVMSGGK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NGMLVTDSAGKQLQRQLSSSSYSGDISRHHNSTAELQKAEAKKEETWKL------
                                                                                                                                                                                                                                                                                                                                                                               579 AQTAFVSLALFNILRFPLNILPMVISSIVQASVSLKRLRIFLSHEELBPDSIER-RPVKD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AVVGQVGCGKSSLLSALLAEMDKVEGH-----VAIKGSVAYVPQQAWIQNDSLRENI
                                                                                                                     LKLLIKFVN---DTKAPDWQGYFYTVLLFVTACLQTLVLHQYFHICFVSGWRIKTAVIGA
                             LRIFIDGLNPETSSKYPPLNGVFIALTLFVISVVSVFLTNQFYIGIFBAGLGIRGSLASL
                                                                                              VYRKALVITNSARKSSTVGEIVNLMSVDA---QRFMDLATYINMIWSAPLQVILALYLLW
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A, Residues: 1-255 -80V  
A, Roter the authorse translated the codon CAG for residue 248 as His 
A, Whoter the authorse translated the codon CAG for residue 248 as His 
B, Purnelle, B.; Goffeau, B.; Goffeau, B.; Data Library, April 1996 
A, Description: The sequence of 24 kb on the left arm of yeast chromosome XII reveals II 
A, A, Rotesion: S5331 
A, Molecule type: DNA 
A, Reference number: 56391 
A, Rotesion: S531 
A, Molecule type: DNA 
A, Reterence and Male: X97560; NID: 91297003; PIDN: CAA66162.1; PID: 91297015 
A, Rotesion: S7059 - VER. 
A, Reterence number: 57059 - VER. 
A, Rotesion: S7056 
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llarity 35.1%; Pred. No. 1.2e-145;
Conservative 292; Mismatches 541;
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Matches 574; Conserv
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Db 1363 DGIDISDIGLEDLRSHLAIIPQDAQAEEGTVKTNLDPFNRYSEDELKRAVEQAHLKPHLE 1422

QY 1414 AL-------PDKLDHECAEGENLSVGQRQLVCLARALLRKTKTLVLDEA 1456

Db 1423 KMLHSKPRGDDSNEEDGNVNDILDVKINSNLSVGQRQLLCLARALLRRSKILVLDEA 1482

QY 1457 TAAVDLETDDLIQSTIRTQEEDCTVLTIAHRLNTIMDYTRVIVLDKGBIQEYGAPSDLLQ 1516

Db 1483 TASVDMSTDXIQDTIRREFKDRTILTIAHRLNTIMDYTRVIVLDXGSVREFDSFSKLLS 1542

QY 1517 QR-GLFYSKAKDAG 1529

Db 1543 DKTSIFYSLCEKGG 1556
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Search completed: March 18, 2005, 11:05:44 Job time : 62.7349 secs

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GenCore version 5.1.6
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OM protein - protein search, using sw model

March 18, 2005, 10:57:20 ; Search time 206.058 Seconds (without alignments) 4838.524 Million cell updates/sec Run on:

US-10-665-283-8 10016 1 MALRGFCSADGSDPLWDWNV.....RSVAVAKAKPKFSISPDSLS 1947 Title: Perfect score: Sequence:

BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

1612378 seqs, 512079187 residues Searched:

1612378 Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 200000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

UniProt\_03:\*
1: uniprot\_sprot:\*
2: uniprot\_trembl:\* Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

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% Query Match	78.5	77.6	76.8	76.8	74.3	74.1	72.6	72.2	70.9	6.69		69.2	68.8	60.7	45.1	44.8	44.1	43.9	39.5		38.7	38.7	æ	æ	38.5	38.4	æ	8	38.1	œ	38.1
Score	7860	7769	7695	7689	7444	7419.5	7272	7230.5		7002.5	6932.5	6932.5	6892	6075	4522	4491.5	4422	4396	3952.5	3885.5	3880.5	3879.5	874	860.	3857	3845.5	838	836	18	813	81
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3807.5	3793.5	3790	3771.5	3769.5	3741	3738.5	3655	3653.5	3641.5	3625.5	3595	3594	3577
32	33	34	35	36	37	38	9	40	4	42	43	44	45

## ALIGNMENTS

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TOPOLOGY, AND CARBOHYDRATE-LINKAGE SITES.
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MUTAGENESIS OF TRP-1246.

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MEDLINE=21578494; PubMed=11721885;
Conrad S., Kauffmann H.-M., Ito K., Deeley R.G., Cole S.P.C.,
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Nat. Genet. 25:223-227(2000).
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SIMILARITY: Belongs to the ABC transporter family, MRP subfamily. DATABASE: NAME-Atlas Genet. Cytogenet. Oncol. Haematol.; WWW-"http://www.infobiogen.fr/services/chromcancer/Genes/MRPID106.html".
                                                                                                                                                                                                                                                                                                                                                                                 This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bloinformatics and the EMBL outstation the European Bloinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
ISOId=P33527-8; Sequence=VSP 000037, VSP 000038, VSP 000039; TISSUE SPECIFICITY: Lung, testis and peripheral blood mononuclear
                                                                                                                    Event=Alternative splicing, Named isoforms=8,
Comment=Additional isoforms seem to exist. Experimental
confirmation may be lacking for some isoforms;
                                                                                                                                                                                                                                       Name=Delexon-17-18;
IsoId=P33527-5; Sequence=VSP_000037, VSP_000038;
Name=Delexon-17-30;
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                                                                                             SUBCELLUTAR LOCATION: Integral membrane protein. ALTERNATIVE PRODUCTS:
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AF022824; AAB83983.1;
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Name=Delexon-18-30;
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
NCBI_TaxID=9606;
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                                                                                                   TFLIQLERRKGVQSSGIMLTFWLVALLCALAILRSKIMTALKEDVQVDLFRDMTFYVYFS 180
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                                                                                    LWSLNKEDTSEQVVPVLVKNWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVBAL
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                            LLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
MEDLINE-22544876; PubMed=12657726;
Godinot N., Iversen P.W., Tabas L., Xia X., Williams D.C.,
Dantzig A.H., Perry W.L.;
"Cloning and functional characterization of the multidrug resistance-
associated protein (MRP1ABCG1) from the cynomolgus monkey.";
Mol. Cancer Ther. 2:307-316(2003).
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                                                                                                                                                                                  Multidrug resistance protein 1B.

Name=MRP1;
Macaca fascicularis (Crab eating macaque) (Cynomolgus monkey).

Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Mammalia; Butheria; Primates; Catarrhini; Cercopithecidae;

Cercopithecinae; Macaca.
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Perry W.L. III, Godinot N.;
Submitted (AUG-2002) to the EMBL/GenBank/DDBJ databases.
-1- SINITARITY: Belongs to the ABC transporter family.
EMBL; AX146673; AAN65349.1; -.
HSSP; PO8716; 1MT0
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                                                                                                                                        01-JUN-2003 (TrEMBLrel. 24, Created)
01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 76.8%; Score 7695; DB 2; 1
Best Local Similarity 97.5%; Pred. No. 0;
Matches 1493; Conservative 20; Mismatches 18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GO; GO: 0016621; C:integral to membrane; IEA.
GO; GO: 0005524; F:ATP binding; IEA.
GO; GO: 0005524; F:ATP binding; IEA.
GO; GO: 0004265; F:ATPasa activity, coupled to tra
GO; GO: 0001665; F: Find-leotide binding; IEA.
GO; GO: 0005215; F: Fransporter activity; IEA.
GO; GO: 0006810; P: transporter activity; IEA.
InterPro: IPR001529; ABC membrane.
InterPro: IPR001529; ABC membrane.
InterPro: IPR00149; ABC Transporter.
InterPro: IPR00149; ABC Transporter.
InterPro: IPR00199; Prof. Kinase.
Pfam; PF00064; ABC membrane; 2.
Probon; PD000005, ABC transporter; 2.
Probon; PD000005; ABC transporter; 2.
SWART; SM00382; AAA; Z.
ITGREPAS; ITGR00957; MPE assoc_pro; 1.
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PROSITE; PSS0921; ABC TRANSPORTER 1; 2.
PROSITE; PSS0893; ABC TRANSPORTER 2; 2.
PROSITE; PS00107; PROTEIN KINASE ATP; UNKNOWN 1.
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                                                                                                                1531
                           PRELIMINARY;
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                     1261 VERLKEYSETEKEAPWQIQETAPPSNWPQVGRVEFRNYCLRYREDLDFVLRHINVTINGG
                                                                  SGSLRMNLDPFSQYSDBEVWTSLELAHLXDFVSALPDKLDHECAEGGENLSVGQRQLVCL
                                                                                                               SGSLRMNLDPFSQYSDBEVWTSLELAHLKGFVSALPDKLDHECAEGGENLSVGQRQLVCL
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        VERLKEYSETEKEAPWQIQETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRHINVTINGG
                                                   EKVGIVGRIGAGKSSLTLGLFRINESAEGEIIIDGINIAKIGLHDLRFKITIIPQDPVLF
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MEDLINE=22544876; PubMed=12657726;
Godinot N., Iversen P.W., Tabas L., Xia X., Williams D.C.,
Dantzig A.H., Perry W.L.;
"Cloning and functional characterization of the multidrug resistance-
associated protein (MRP1ABCG1) from the cynomolgus monkey.";
Mol. Cancer Ther. 2:307-316(2003).
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Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Cercopithecidae,
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PERSYNEAL III, Godinot N.;
Submitted (AQG-2002) to the EMBL/GenBank/DDBJ databases.
-!- SIMILARITY: Belongs to the ABC transporter family.
EMBL; AX146672; AAN65348.1; -.
                                                                                                                                                                                                                                                                            01-JUN-2003 (TrEMBLrel. 24, Created)
01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
Multidrug resistance protein 1A.
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GO; GO: 0016524; F: ATP binding; IEA.
GO; GO: 000524; F: ATP binding; IEA.
GO; GO: 000524; F: ATP binding; IEA.
GO; GO: 0000166; F: mucleotide binding; IEA.
GO; GO: 0005215; F: transporter activity; IEA.
GO; GO: 0006810; P: transporter activity; IEA.
GO; GO: 0006810; P: transport; IEA.
InterPro; IPR001359; AAA ATPABE.
InterPro; IPR001359; AAA ATPABE.
InterPro; IPR0013439; ABC membrane_1.
InterPro; IPR0013439; ABC transporter.
InterPro; IPR005292; MRP_assoc.
InterPro; IPR005292; MRP_assoc.
Ffam; PF00664; ABC membrane; 2.
Ffam; PF00664; ABC membrane; 2.
Frobom; PF000606; ABC transporter; 2.
Frobom; PF000065; AABC transporter; 2.
FROSTIE; PS50929; ABC TRANSPORTER; 1; 2.
FROSTIE; PS50929; ABC TRANSPORTER_2; 2.
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NCBL_TaxID=9541;
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TISSUE=Kidney;
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                                                                                                                                   Gaps
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0
                                                                                         Length 1531;
PROSITE; PS00107; PROTEIN_KINASE_ATP; UNKNOWN_1.
ATP-binding.
SEQUENCE 1531 AA; 171700 MW; 168712B8CC2D2B89 CRC64;
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LGFLLWIVCWADLFYSFWERSRGIFLAPVFLVSPTLLGITTLLATFLIQLERRKGVQSSG 136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LGFLLMIVCWADLFYSFWERSRGIFLADVFLVSPTLLGITTLLATFLIOLERRKGVQSSG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   316
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301 LYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPDWGGYFYTVLLFVTACL 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 DWNVTWNTSNPDFTKCFQNTVLVWVPCFYLWACFPFYFLYLSRHDRGYIQMTPLNKTKTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181 LFSETIHDENPCPESSASFLSRITFWWITGLIVRGYRQPLEGSDLWSLNKEDTSEQVVPV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     17 DWNVTWNTSNPDFTKGFQNTVLVWVPCFYLWACFPFYFLYLSRHDRGYIQMTPLNKTKTA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 1459;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GO; GO: 0016621; G: integral to membrane; IEA.
GO; GO: 0016621; E: ATP binding; IEA.
GO; GO: 000524; E: ATP binding; IEA.
GO; GO: 000166; F: muclectide binding; IEA.
GO; GO: 0000515; F: transporter activity; IEA.
GO; GO: 0005215; F: transporter activity; IEA.
GO; GO: 0006810; P: transporter activity; IEA.
GO; GO: 0006810; P: transporter; IEA.
InterPro; IPR0011527; ABC_membrane_1.
InterPro; IPR001140; ABC_TM transpt.
InterPro; IPR00140; ABC_TM transpt.
InterPro; IPR00140; ABC_TM transpt.
InterPro; IPR00140; ABC_TM transpt.
InterPro; IPR00149; Proft Kinase.
Pfam; PF00664; ABC_membrane; 2.
Pfam; PF00664; ABC_membrane; 2.
Pfam; PF00664; ABC_TM assoc.pro; 1.
ProDom; PD000006; ABC_Tran; 1.
PROSITE; PSS0929; ABC_TRANSPORTER_1; UNGNOWN_1.
PROSITE; PSS0929; ABC_TRANSPORTER_2; 2.
PROSITE; PSS0931; ABC_TRANSPORTER_2; 2.
PROSITE; PSS0931; ABC_TRANSPORTER_2; 2.
PROSITE; PSS0931; ABC_TRANSPORTER_2; 2.
PROSITE; PSS0931; ABC_TRANSPORTER_2; 2.
PROSITE; PSS0931; ABC_TRANSPORTER_2; 2.
PROSITE; PSS0931; ABC_TRANSPORTER_2; 2.
PROSITE; PSS0931; ABC_TRANSPORTER_2; 2.
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96.3%; Pred. No. 0;
ive 0; Mismatches
EMBL, AF022836; AAB83980.1; JOINED.
EMBL, AF022837; AAB83980.1; JOINED.
EMBL, AF022839; AAB83980.1; JOINED.
EMBL, AF022839; AAB83980.1; JOINED.
EMBL, AF022841; AAB83980.1; JOINED.
EMBL, AF022842; AAB83980.1; JOINED.
EMBL, AF022844; AAB83980.1; JOINED.
EMBL, AF022845; AAB83980.1; JOINED.
EMBL, AF022845; AAB83980.1; JOINED.
EMBL, AF022845; AAB83980.1; JOINED.
EMBL, AF022846; AAB83980.1; JOINED.
EMBL, AF022849; AAB83980.1; JOINED.
EMBL, AF022850; AAB83980.1; JOINED.
EMBL, AF022850; AAB83980.1; JOINED.
EMBL, AF022850; AAB83980.1; JOINED.
EMBL, AF022851; AAB83980.1; JOINED.
EMBL, AF022853; AAB83980.1; JOINED.
EMBL, AF022853; AAB83980.1; JOINED.
EMBL, AF022853; AAB83980.1; JOINED.
EMBL, AF022853; AAB83980.1; JOINED.
EMBL, AF022853; AAB83980.1; JOINED.
EMBL, AF022853; AAB83980.1; JOINED.
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Matches 1459, Conservative
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REAUTION OF THE SEQUENCE FROM N.A.

REAUTINE=98008927; PubMed=9344662; DOI=10.1006/geno.1997.4950;

RA Grant C.E., Kurz E.U., Cole S.P., Deeley R.G.;

"Analysis of the intron-exon organization of the human multidrug-
RT "Analysis of the intron-exon organization of the human multidrug-
RT resistance protein gene (MRP) and alternative splicing of its mRNA.";

Genomics 45:368-378(1997).

- SIMILARITY: Belongs to the ABC transporter family.

BMBL; AF022824; AAB83980.1; JOINED.

DR EMBL; AF022825; AAB83980.1; JOINED.

DR EMBL; AF022827; AAB83980.1; JOINED.

DR EMBL; AF022829; AAB83980.1; JOINED.

DR EMBL; AF022839; AAB83980.1; JOINED.

DR EMBL; AF022831; AAB83980.1; JOINED.

DR EMBL; AF022831; AAB83980.1; JOINED.

DR EMBL; AF022831; AAB83980.1; JOINED.

DR EMBL; AF022831; AAB83980.1; JOINED.

DR EMBL; AF022831; AAB83980.1; JOINED.

DR EMBL; AF022833; AAB83980.1; JOINED.

DR EMBL; AF022834; AAB83980.1; JOINED.

DR EMBL; AF022835; AAB83980.1; JOINED.

DR EMBL; AF022835; AAB83980.1; JOINED.

DR EMBL; AF022835; AAB83980.1; JOINED.
                                                                                                                                                                                                                       ALGISQGIAVFGYSMAVSIGGILASRYLHVDLLHSILRSPMSFFERTPSGNIVNRFSKEL
                                                                                                                                                                                                                                                                                                                                                       KRLESVSRS PVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRWLA
                                                                                                                                                                                                                                                                                                                                                                                           VRLECVGNCI VLFAALFAVI SRHSLSAGLVGLSVSYSLQVTTYLNWLVRMSSEMETNI VA
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                                                                                                  ALGI SQGI AVFGYSMAVSIGGI LASRCLHVDLLHSI LRSPMSFFERT PSGNLVNRFSKEL
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Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo.
MCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Last sequence update)
Last annotation update)
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its mRNA.";
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                                                                           01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-MAY-2004 (TrEMBLrel. 26, Last annotation update)
Multidrug resistance protein (Fragment).
Name=NRRP;
Homo sapiens (Human).
                                                                Ā
                                                                PRT; 1456
                ORGLFYSMAKDAGLV 1531
                                                                PRELIMINARY;
                                                                        09UQA0;
01-MAY-2000
01-MAY-2000
        1517
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multidrug
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-:- SIMILARITY: Belongs to the ABC transporter family.
EMBL, AV363728; AAQ23148.1; -
GO; GO:0016021; C:integral to membrane; IEA.
GO; GO:0005524; F:ATP binding; IEA.
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Bukaryota, Metazoa, Chordata, Craniata, Vertebrata;
Mammalia, Eutheria, Carnivora, Fissipedia, Canidae;
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05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
05-JUL-2004 (TrEMBLrel. 27, Last annotation update)
Multidrug resistance-associated protein 1.
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SEQUENCE FROM N.A.
MEDIJNE=22404678; PubMed=12516967;
Ma L., Pratt S.E., Cao J., Dantzig A.H., Moore R.E.
"Identification and characterization of the canine resistance-associated protein."
Moi. Cancer Ther. 1:1335-1342 (2002).
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SEQUENCE FROM N.A.
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PROSITE; PS00211; ABC_TRANSPORTER_1; 2.
PROSITE; PS00107; PROTEIN_KINASE_ATP; UNKNOWN_1.
ATP-binding.
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74.1%; Score 7419.5;
Best Local Similarity 96.1%; Pred. No. 0;
Matches 1456; Conservative 0; Mismatches
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ARALLRKTKILVLDEATAAVDLETDDLIQSTIRTQFDDCTVLTIAHRLNTIMDYTRVIVL 1500
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                                                                 SLRENILFGCQLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGQKQRVSLAR
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OBHXOS;
OLI-MAR-2003 (TrEMBLrel. 23, Created)
O1-MAR-2003 (TrEMBLrel. 25, Last sequence update)
O1-OCT-2003 (TrEMBLrel. 25, Last annotation update)
Name-KRP1;
Bos taurus (Bovine).
Bos taurus (Bovine).
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
Bovinae; Bos.
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           IEA.
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coupled to transmembrane ig; IEA.
                                                                                                                                                                                                                                                                                                                                                                                                    1531 AA; 171790 MW; 746361A71C6158BD CRC64;
                                                                                                                                                                                                                                                                                          PROSITE; PS50929; ABC_TMIF; 2.

PROSITE; PS00211; ABC_TRANSPORTER 1; 2.

PROSITE; PS000063; ALDOKETO REDUCTAES 3; UNKNOWN 1

PROSITE; PS00107; PROTEIN_KINASE_ATP; UNKNOWN 1.

ATP-biding.

SEQUENCE 1531 AA; 171790 MW; 746361A71C6158BD
GO; GO:0042626; F:ATPase activity, coupled GO; GO:0000166; F:nucleotide binding; IEA. GO; GO:0005215; F:transporter activity; II GO; GO:0005215; F:transporter activity; II GO; GO:0006610; P:transporter activity; II CO; GO:0006610; P:transporter; IEA. InterPro; IPR001359; AAA_ATPase.

InterPro; IPR001359; AAA_ATPase.
InterPro; IPR00140; ABC_IMM_ranspt.
InterPro; IPR001395; AIGO/Ket_red.
InterPro; IPR001395; AIGO/Ket_red.
InterPro; IPR000529; MRP_assoc.
InterPro; IPR000059; ABC_membrane; 2.
Pfam; PF00005; ABC_membrane; 2.
ProDom; PD000006; ABC_transporter; 2.
SMART; SM00382; AAA; Z.
ITGREAMS; ITGR00957; MRP_assoc_pro; 1.
     GO:0042626; F:ATPase activity, coupl
GO:000166; F:nucleotide binding; IE
GO:0005215; F:transporter activity;
GO:0006810; P:transport; IEA.
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RT FEBS Lett. 521:211-213(2002).

REMBL; ABO82124; BAC15550.1; -.

R GO; GO:0005524; F.ATPE binding; IEA.

R GO; GO:0005524; F.ATPE binding; IEA.

R GO; GO:0006515; F.ATRENSporter activity; IEA.

R GO; GO:0006515; F.ATRENSporter activity; IEA.

R GO; GO:0006515; F.ATRENSporter activity; IEA.

R GO; GO:0006515; F.ATRENSporter activity; IEA.

R GO; GO:0006810; P.TGNISPORTE.

R GO; GO:0006810; P.ROM1140; ABC "Membrane 1.

R InterPro; IPR00140; ABC "TML ARD SSOC.

R Pfam; PF00006; ABC "Lansporter; 2.

R Pfam; PF00006; ABC "Lansporter; 2.

R Pfam; PF00006; ABA; Z.

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PROSITE; PS00211; ABC TRANSPORTER 1; 2.
PROSITE; PS50893; ABC TRANSPORTER 2; 2.
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REPAIR SEQUENCE FROM N.A.

REQUENCE FROM N.A.

REDINES-98008927; PubMed=9344662; DOI=10.1006/geno.1997.4950;

RA Grant C.E., Kurz E.U., Cole S.P., Deeley R.G.;

"Analysis of the intron-exon organization of the human multidrug-
RT resistance protein gene (MRP) and alternative splicing of its mRNA.";

Genomics 45:368-378(1997).

-1-SIMILARITY: Belongs to the ABC transporter family.

RMBL, AF022824; AAB83982.1; JOINED.

BMBL, AF022825; AAB83982.1; JOINED.

BMBL, AF022827; AAB83982.1; JOINED.

BRBL, AF022831; AAB83982.1; JOINED.

BRBL, AF022831; AAB83982.1; JOINED.

BR EMBL, AF022831; AAB83982.1; JOINED.

BR EMBL, AF022831; AAB83982.1; JOINED.

BR EMBL, AF022841; AAB83982.1; JOINED.

BR EMBL, AF022841; AAB83982.1; JOINED.

BR EMBL, AF022841; JOINED.

BR EMBL, AF022841; JOINED.

BR EMBL, AF022841; JOINED.

BR EMBL, AF022842.1; JOINED.

BR EMBL, AF022843.1; JOINED.

BR EMBL, AF022843.1; JOINED.

BR EMBL, AF022843.1; JOINED.

BR EMBL, AF022848.1; AAB83982.1; JOINED.

BR EMBL, AF022849.1; JOINED.

BR EMBL, AF022849.1; JOINED.

BR EMBL, AF022848.1; JOINED.

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BR EMBL, AF022849.1; JOINED.

BR EMBL, AF022849.1; JOINED.

BR EMBL, AF022849.1; JOINED.

BR EMBL, AF0228448.1;                                                                                                                                                   Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
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R GO; GO:0016021; C:integral to membrane; NAS.

R GO; GO:00164409; E:homoaconitate hydratase activity; NAS.

R GO; GO:00064409; E:homoaconitate hydratase activity; NAS.

R GO; GO:0006410; E:homoaconitate hydratase activity; NAS.

R InterPro; IPR01527; ABC_membrane_1.

InterPro; IPR011527; ABC_membrane_1.

InterPro; IPR011439; ABC_transporter.

R InterPro; IPR005292; MRP_assoc.

R InterPro; IPR005292; MRP_assoc.

R Pfam; PF000064; ABC_membrane; 2.

Pfam; PF000064; ABC_membrane; 2.

R Pfam; PF000005; ABC_transporter; 1.

R SMART; SM00382; AAA; 2.
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01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
MultMA-2004 (TrEMBLrel. 26, Last annotation update)
Multidrug resistance protein (Fragment).
Name=MRP;
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PROSITE; PS50929; ABC_TMIF; 2.
PROSITE; PS00211; ABC_TRANSPORTER 1; UNKNOWN_1.
PROSITE; PS50893; ABC_TRANSPORTER 2; 2.
PROSITE; PS00107; PROTEIN_KINASE_ATP; UNKNOWN_1.
ATP-binding.
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Pred. No. 0;
0; Mismatches
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AF022829; AAB83982.1; JOINED.
AF022828; AAB83982.1; JOINED.
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Matches 1400; Conservative
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AF022834;
AF022832;
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DWNVTWNTSNPDFTKCFQNTVLVWVPCFYLWACFPFYFLYLSRHDRGY1QMTPLNKTKTA
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STRAIN=C57BL/60; TISSUB=Testis;

NEDLINE=25354683; DubMed=21466851; DOI=10.1038/nature01266;

Nataido I., Osato N., Kasukawa T., Adachi J., Bono H., Kondo S.,

Nikaido I., Osato N., Saito R., Suzuki H., Yamanaka I., Kiyosawa H.,

Nataiki Y., Hill D.P., Bult C., Hume D.A., Quackenbush J.,

Baldarelli R., Hill D.P., Bult C., Hume D.A., Quackenbush J.,

Baldarelli R., Hill D.P., Bult C., Hume D.A., Quackenbush J.,

Baldarelli R., Farati D., Brusic V., Chothia C., Corbani L.E., Cousins S.,

Balke J.A., Bradt D., Brusic V., Chothia C., Corbani L.E., Cousins S.,

Balke J.A., Bradt D., Brusic V., Chothia C., Corbani L.E., Cousins S.,

Basterland T., Gariboldi M., Gissi C., Godzik A., Gough J.,

Arani A., Kawaji H., Kawasawa Y., Kedzierski R.M., Kinge B.L.,

Konagaya A., Kurochkin I.V., Lee Y., Lenhard B., Lyons P.A.,

Maglott D.R., Maltais L., Marchionni L., McKenzie L., Miki H.,

Nagashima T., Numata K., Okido T., Pevan W.J., Pertea G., Pescole G.,

Petrovsky N., Pillai R., Pontius J.U., Qi D., Ramachandran S.,

Ravasi T., Reed J.C., Reed D.J., Reid J., Ring B.Z., Ringwald M.,

Sandelin A., Schneider C., Semple C.A., Setou M., Shimada K.,
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                                              ETLLGVSVIRAFEEGERFIHQSDLKVDENQKAYYPSIVANRWLAVRLECVGNCIVLFAAL
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25-OCT-2004 (Rel. 45, Last sequence update)
25-OCT-2004 (Rel. 45, Last annotation update)
25-OCT-2004 (Rel. 45, Last annotation update)
Multidrug resistance-associated protein I (ATP-binding cassette, subfamily C, member 1).
Name=Abccl; Synonyms=Abccla, Abcclb, Mdrap, Mrp;
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Stride B.D., Valdimarsson G., Gerlach J.H., Wilson G.M., Cole S.P.,
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
NCBI_TaxID=10090;
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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (see http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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InterPro; IPR011527; ABC membrane 1.
InterPro; IPR001140; ABC TM transpt.
InterPro; IPR003439; ABC Transporter.
InterPro; IPR005292; MRP assoc.
Pfan; PP00664; ABC membrane; 2.
Pfan; PP00005; ABC membrane; 2.
ProDom; P000006; ABC transporter; 2.
SYART; SM00385; AAA; 2.
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EMBL; AK029876; BAC26654.1; -.
HSSP; P08716; 1MT0.
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                                                                       MLVTDSAGKQLQRQLSSSSSYSGDISRHHNSTAELQKAEAKKEETWKLMEADKAQTGQVK
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     RAVYSNSDIYLFDDPLSAVDAHVGKHIFEKVVGPMGLLKNKTRILVTHGISYLPQVDVII
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Rattus norvegicus (Rat).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi;
Mammalia, Butheria, Rodentia, Sciurognathi, Muridae, Murinae, Rattus.
NCBI_TaxID=10116;
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                                                                                                                                                                                                Gaps
Extracellular (By similarity).

15 (By similarity).

Cytoplasmic (By similarity).

Extracellular (By similarity).

17 (By similarity).

Cytoplasmic (By similarity).

Cytoplasmic (By similarity).

ABC transporter 1.

ABC transporter 2.

APP (Potential).

ATP (Potential).

N'Inked (GIONAc. ..) (Potential).

N'Inked (GIONAc. ..) (Potential).

N'Inked (GIONAc. ..) (Potential).

N'Inked (GIONAc. ..) (Potential).
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69.9%; Score 7002.5;
Best Local Similarity 88.0%; Pred. No. 0;
Matches 1349; Conservative 102; Mismatches
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SOI ILVTDAVGKPLQRHLSNSSSHSVVTNQQHSSTAELQKS-GVKEETWKLMEADKAQTGQVK
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                                                                                                               MLVTDSAGKOLOROLSSSSSYSGDISRHHNSTAELOKAEAKKEETWKLMEADKAQTGQVK
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                                                                                            RAVYSNADIYLFDDPLSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVII
                                                                                                                                                             VMSGGKISEMGSYQELLARDGAFAEFLRTYASTEQEQDAEENGVTGVSGPGKEAKQMENG
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OBCG09;

O1-MAR-2003 (TrEMBLrel. 23, Created)
O1-MAR-2003 (TrEMBLrel. 23, Last sequence update)
O1-MAR-2003 (TrEMBLrel. 26, Last annotation update)
Multidrug resistance-associated protein 1.

Name-Mrp;
Ratus norvegicus (Rat).
Ratus norvegicus (Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
NCBI TaxID=10116;
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R GO; GO:000166; F:ATPage activity, coupled to transmembrane m. R GO; GO:000166; F:nucleotide binding; IEA.
RG GO:0005215; F:transporter activity; IEA.
RO; GO:0005215; F:transporter activity; IEA.
RO; GO:0005216; F:transporter activity; IEA.
RITHEFPC; IPR0013593; AAA_ATPage.
RITHEFPC; IPR001140; ABC_TM_transporter.
RITHEFPC; IPR001140; ABC_TM_transporter.
RITHEFPC; IPR001395; ABC_transporter.
RITHEFPC; IPR001395; ABC_transporter.
R Pfam; PF00066; ABC membrane; 2.
R Pfam; PF00066; ABC membrane; 2.
R Pfam; PF00066; ABC_Transporter; 2.
R RAMAT; SM00382; AAA; 2.
R RAMAT; SM00382; AAA; 2.
R ROSITE; PS00211; ABC_TRANSPORTER 1; 2.
R ROSITE; PS00063; ABC_TRANSPORTER 2; 2.
R R ROSITE; PS00063; ALDÖKETO_REDUCTASE 3; UNKNOWN_1.
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                            PMVISSIVQASVSLKRLRIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTWARSDPP
                                            TLNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAWIQN
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          Yang Z., Li C.S.W., Shen D.D., Ho R.J.Y., Submitted (OCT-2002) to the EMBL/GenBank/DDBJ databases. - I- SIMILARITY: Belongs to the ABC transporter family. EMBL; ANIY0916; AAN86532.1; -. HSSP; PO8716; 1MTO.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 MALRGFCSADGSDPLWDWNVTWNTSNPDFTKCFQNTVLVWVPCFYLWACFPFYFLYLSRH
                                     Craniata; Vertebrata; Euteleostomi;
Sciurognathi; Muridae; Murinae; Rattus
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                                                                                               STRAIN-Sprague-Dawley; TISSUE-Spleen;
A Takayanagi S., Ishikawa T.;
Takayanagi S., Ishikawa T.;
Submitted (NOV-2002) to the BMBL/GenBank/DDBJ databases.
L. Submitted (NOV-2002) to the BMBL/GenBank/DDBJ databases.
L. SIMILARITY: Belongs to the ABC transporter family.
R MSD; PORTIGE; IMTO.
EMBL; AY174892; AAC44983.1; -.
R MSC) GO:001662; F.ATP binding; IEA.
GO; GO:001662; F.ATP binding; IEA.
GO; GO:0005224; F.RATP Bese activity; Coupled to transmembrane
GO; GO:000166; F.RUCHOCTIC activity; IEA.
GO; GO:0005215; F.RUCHOCTIC activity; IEA.
GO; GO:0005215; F.RUCHOCTIC activity; IEA.
GO; GO:0005215; F.RUCHOCTIC activity; IEA.
GO; GO:0005215; F.RUCHOCTIC activity; IEA.
GO; GO:0005215; F.RUCHOCTIC activity; IEA.
GO; GO:0005215; F.RUCHOCTIC activity; IEA.
GO; GO:000166; F.RUCHOCTIC activity; IEA.
GO; GO:0005215; F.RUCHOCTIC activity; IEA.
GO; GO:0005215; F.RUCHOCTIC activity; IEA.
GO; GO:00061 ABC MEMBLE: C.
R INTERPO: IPRO01395; ABC MEMBLE: C.
R PETANT; SM00182; ABC Membrane; 2.
R PETANT; SM00182; AAA; 2.
R PROSITE; PSS0021; ABC TRANSPORTER 1; 2.
R PROSITE; PSS0063; ALDOKETO_REDUCTASE_3; UNKNOWN_1.
                                                                                                                                                                                                              transmembrane
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 68.8%; Score 6892; DB 2; 1
Best Local Similarity 87.0%; Pred. No. 0;
Matches 1333; Conservative 98; Mismatches 90;
ប
                       Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
ATP-binding cassette protein
                                                                                       SEQUENCE FROM N.A.
                                                              NCBI_TaxID=10116;
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                                                                                                                                   FENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIVMSGGKISEMGSYQELLARDGAFAEFL
                                    SSSYSGDISRHHNSTAELQKAEAKKEETWKLMEADKAQTGQVKLSVYWDYMKAIGLFISF
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                                                                                                                                                                                                                                                                                                                     ETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRWLAVRLECVGNCIVLFAAL
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                                                                                                        -----GVTGVSGPGKEAKQMENGMLVTDSAGKQLQRQLSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SLFNVIGACIVILLATPIAAIIIPPLGLIYFFVQRFYVASSRQLKRLESVSRSPVYSHFN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mus musculus (Mouse).
Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
VCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-JUN 2003 (TrEMBLrel. 24, Created)
01-JUN 2003 (TrEMBLrel. 24, Last sequence update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
Similar to ATP-binding cassettes, sub-family C (CFTR/MRP), member
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STRAIN=FVB/N; TISSUE=Liver;
Strausberg R.;
Submitted (MAR-2003) to the EMBL/GenBank/DDBJ databases.
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                                                                                                        RTYASTEQEQUAEEN
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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TISSUEAMYGBAIA;
TISSUEAMYGBAIA;
The German cDNA CORBOTTIUM;
A KOCHTER K., Beyer A., Mewes H.W., Weil B., Amid C., Osanger Pobo G., Han M., Wiemann S.;
L Submitted (SEP-2004) to the EMBL/GenBank/DDBJ databases.
EMBL; CR749835; CZH18691.1;
InterPro; IPR001353; AAA ATPESE.
R InterPro; IPR001353; ABC_TRAISPORTER.
R InterPro; IPR001353; ABC_TRAISPORTER.
R InterPro; IPR001359; MBC_TRAISPORTER.
R InterPro; IPR000359; MBC_TRAISPORTER.
R InterPro; IPR000719; Prof_Kinase.
F Fam; PF000064; ABC_membrane; 2.
R Pfam; PF000064; ABC_membrane; 2.
R ProDom; PD000006; ĀBC_transporter; 2.
R SMAKT; SM00382; AAA; 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TIGRFAMS; TIGRO0957; MRP assoc pro; 1.

PROSITE; PS00211; ABC TRANSPORTER 1; 2.

PROSITE; PS01003; ABC TRANSPORTER 2; 2.

PROSITE; PS010107; PROTEIN KINASE ĀTP; UNKNOWN 1.

ATP-binding; Hypotherical protein.

SEQUENCE 1215 AA; 134926 MW; E490ADIF5268F72E CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3; Indels
                                                                                     25-OCT-2004 (TrEMBLrel. 28, Created)
25-OCT-2004 (TrEMBLrel. 28, Last sequence update)
25-OCT-2004 (TrEMBLrel. 28, Last annotation update)
Hypothetical protein DKFZp781G125.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 2;
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60.7%; Score 6075; D
Best Local Similarity 98.9%; Pred. No. 0;
Matches 1202; Conservative 0; Mismatches
                                                     1215
                                              PRELIMINARY;
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1421 GQRQLVCLARALLRKSRVLVLDEATAAIDLETDDLIQGTIRTQFEDCTVLTIAHRLNTIM 1480
                                                                                                                                                                                                                                               1013 KVRLSVYGALGISQGIAVFGYSMAVSIGGILASRCLHVDLLHSILRSPMSFFERTPSGNL 1072
                                                                                                                                                                                                                                                                                                                                                    1433 GORQLVCLARALLRKTKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIM 1492
                                                                                                                                                     DS-----AGKQLQRQLSSSSSYSGDIS----RHINSTAELQKAEAKKEETWKLMEADK 952
                                                                                                                                                                            DNEPAIYEVRKOFMREMSSLSS-EGEVONRTMPKKHTNSLEKEALVTKTKETGALIKEEI 940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1361 IPQDPILFSGTLRMNLDPFGRYSEEDIWRALELSHLNTFVSSQPAGLDFQCAEGGDNLSV
                                                            AQTGQVKLSVYWDYMKAIGLFISPLSIFLFMCNHVSALASNYWLSLWTDDPIVNGTQEHT
                                                                                                                                                                                                                VNRFSKELDTVDSMIPEVIKMFMGSLFNVIGACIVILLATPIAAIIIPPLGLIYFFVQRF
                                                                                                                                                                                                                                                                                                         YVASSROLKRLESVSRSPVYSHFNETLLGVSVIRAFEEOERFIHOSDLKVDENOKAYYPS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FGCOLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGGKORVSLARAVYSNAD
                                                                                                         EMGSYQELLARDGAFAEFLRTYASTEQEQDAEENGVTGVSGPGKEAKQMENGML----VT
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                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                38;
                                                                                                                                                                                                                                                            Length 1519;
R EMBL; BC048825; AAH48825.1; -- SIMILARITY: Belongs to the ABC transporter family. R HSSP; P26361; 1RC2. -- SIMILARITY: Belongs to the ABC transporter family. HSSP; P26361; 1RC3. -- SIMIL.1923658; Abcc3.

R GO; GO:0005887; C:integral to plasma membrane; IDA.
R InterPro; IPR001393; AAA ATPASSe.
R InterPro; IPR001140; ABC membrane 1.
R InterPro; IPR001140; ABC membrane 1.
R InterPro; IPR001140; ABC membrane 2.
R Pfam; PF00066; ABC transporter.
R Pfam; PF00006; ABC transporter; 2.
R ProDom; PD000066; ABC transporter; 2.
R PROMONS; ABC TRANSPORTER; 2.
R PROSITE; PS50929; ABC TMIF; 2.
R PROSITE; PS50821; ABC TMIF; 2.
R PROSITE; PS50893; ABC TMIF; 2.
R PROSITE; PS50893; ABC TRANSPORTER_2; 2.
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1519 AA; 168648 MW; 72A5151A862EC948 CRC64;
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                                                                                                                                                                                                 PROSITE, PS5
ATP-binding.
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SEQUENCE
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